

3260/4032 Print System



Service Manual Volume 1

MINOLTA
QMS

1750041-001C

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NOTICE

The information in this manual is subject to change without notice.

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FEDERAL COMMUNICATIONS COMMISSION NOTICE

This equipment has been tested and found to comply with the limits set for a Class B digital device, as stated in Part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference in a commercial installation. This equipment generates, uses, and can radiate radio frequency energy. If not installed and used in accordance with the instructions provided, this equipment may cause disruptive interference to nearby radio and television communications. Even if the equipment is installed according to the instructions, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause disruptive interference to nearby radio and television reception, switch the equipment off to determine if it is the true cause of the interference. If the equipment is the cause of the interference, the user should try to minimize the interference by using one or more of the following actions:

- Either re-orient or relocate the radio/television receiving antenna.
- Increase the separation between the equipment and the radio/television receiver.
- Connect the equipment to an AC outlet that is not on the same circuit as the radio/television receiver.
- If the previous solutions fail to bring results, you should consult either your equipment dealer or an experienced radio/television technician.

For more information on interference, refer to the Federal Communications Commission's booklet "How to Identify and Resolve Radio-TV Interference Problems". This booklet is available from the U.S. Government Printing Office, Washington D.C. 20402, Stock No. 004-000-00345-4.

Modifications

Changes or modifications to this equipment not expressly approved by MINOLTA-QMS, Inc may void the user's right to operate the equipment.

CANADIAN NOTICE

This digital apparatus does not exceed the Class B limits for radio noise emissions from digital apparatus set out in the Radio interference regulations of the Canadian Department of Communications.

AVIS CANADIEN

Cet appareil numérique est conforme aux limites émission de bruits radioélectriques pour les appareils de classe B stipulés dans le règlement sur le brouillage radioélectrique du Ministère des Communications du Canada.

EUROPEAN NOTICE

This equipment has been tested and determined to be compliant with VDE requirements for a Class B device.

HINWEIS

Hiermit wird bescheinigt, dass der P2HI Laserdrucker, in bereinstimmung mit den Bestimmungen der Vfg 104ß 984 funkenstört ist. Der Deutschen Bundespost wurde das Inverkehrbringen dieses Gerätes angezeigt und die Berechtigung zur Überprüfung der Serie auf Einhaltung der Bestimmungen eingeräumt.

CLASS 1 LASER PRODUCT

This Laser Printer is certified to comply with the Class 1 laser product performance standards as set by the U.S. Department of Health and Human Services. This class of laser product has an enclosed laser system that keeps all laser energy safely inside the fully assembled and closed printer.

The laser and output of the laser scanning unit produce a beam that, if viewed, could cause serious eye damage. Service procedures must be followed exactly as written. Use of controls, adjustments, or procedures other than those specified in this manual may result in exposure to hazardous laser radiation.

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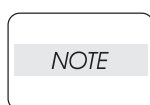
Section 1. About this Manual

This manual contains technical and service information for the 3260/4032 Print System. The information is based on and validated using the basic model printer. Expect some minor discrepancies in physical appearance, hardware count, and electrical readings due to engineering modifications and manufacturing changes during the life of the product.

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Symbols Used in This Manual

Various symbols are used throughout this manual to either provide additional information on a specific topic, or to warn of possible danger present during a procedure or action. Be aware of all symbols when they are used, and always read NOTE, CAUTION, or WARNING messages.



GEN101

A Note may indicate an operating or maintenance procedure, practice, or condition that is necessary to accomplish a task efficiently. A Note may also provide additional information that is related to a specific subject, or comment on the results achieved through a previous action.



GEN102

A Caution indicates an operating or maintenance procedure, practice, or condition that, if not strictly observed, could result in damage to, or destruction of, equipment.



GEN103

A Warning indicates an operating or maintenance procedure, practice, or condition that, if not strictly observed, could result in injury or loss of life.

Safety information

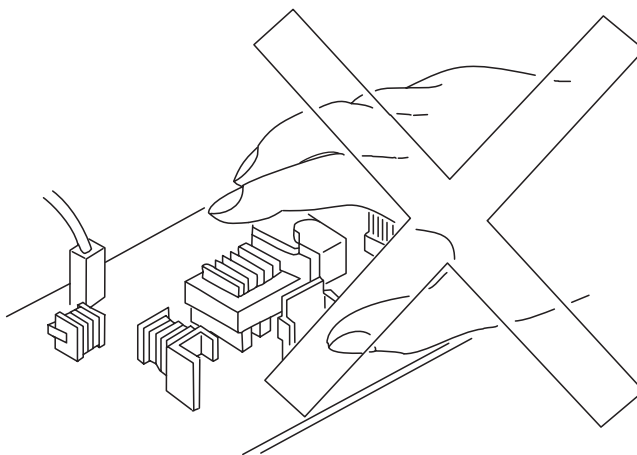
Follow all safety instructions to prevent accidents while servicing this laser printer. Always be aware of the potential dangers that are present when you are working with electrical or mechanical equipment.

Power supply and electrical components

Before starting any service procedure, switch off the printer power and unplug the power cord from the wall outlet. If you must service the printer with power applied, be aware of the potential for electrical shock.



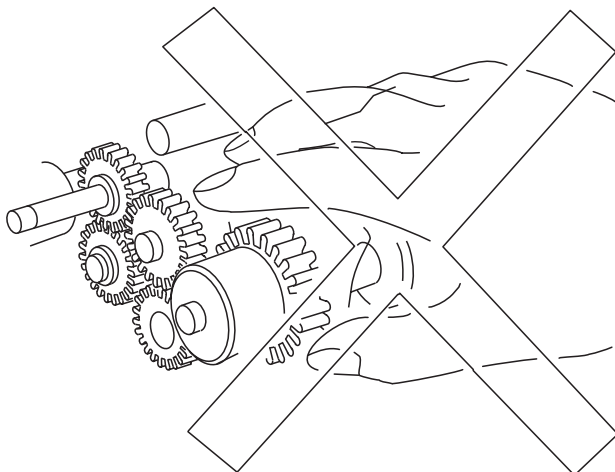
Do not touch any electrified component unless you are instructed to do so by a service procedure



SER101X

Mechanical components

Manually rotate drive assemblies to inspect sprockets and gears. Do not try to manually rotate or stop the drive assemblies while the Main Motor is running.



SER102X

Laser Assembly



This printer uses a laser as part of the printing process. The laser beam is a very powerful, straight, narrow beam of light that produces extreme heat at its focal point. The laser beam in this printer is invisible. Although you cannot see the beam, it can still cause severe damage. Direct eye exposure to the laser beam may cause eye injury or blindness.

Never place a mirror or a reflective tool or object in the laser beam path.

To avoid permanent eye damage, follow these directions:

- Before starting any service procedure, switch off the printer power and unplug the power cord from the wall outlet.
- Do not disassemble the ROS Assembly or any laser component that displays a Laser Warning Sticker.
- Use caution when you are working around the ROS Assembly or when you are performing laser related repair procedures.
- Do not disassemble the printer in such a way that the laser beam can exit the print engine during a print cycle.

Safety Components

Make sure fuses, interlock switches, covers and panels are all functioning properly after you have reinstalled or replaced them.

Warning Labels

Throughout the printer, warning labels are displayed on potentially dangerous components. When you service the printer, check to make sure that all warning labels are in place.

Read and obey all warning messages.

3260/4032 Print System Service Section

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Section 2. The FIP Flowchart

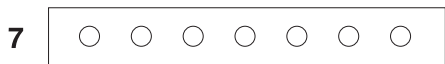
If you used the Service Flowchart, it should have directed you to this section. Follow the **FIP Flowchart**, located at the end of this section, to analyze your printer problem.

How to Use the FIP Flowchart

1. If the LCD displays an error code; go to the **ERROR CODE** box.
2. If you a printer operation problem; go to the **PRINTER PERFORMANCE** box.
3. If you have an print image problem; go to the **IMAGE QUALITY** box.
4. Follow the arrow leading from your problem box to the individual Primary FIP (Fault Isolation Procedure) that corresponds to your error code, printer operation problem, or print image problem.
5. Follow the instructions presented in the FIP.
6. If a FIP instructs you to perform a diagnostic test, refer to *Section 8 Running Printer Diagnostics*.
7. Voltage and resistance values presented in the FIPs are an approximation. Actual readings may vary from the stated values.
8. Primary FIPs may direct you to a Secondary FIP. In the FIP Flowchart, the relationship between Primary and Secondary FIPs is represented with dotted lines.

How to Follow a FIP (see the sample FIP below)

1. Each numbered step in a FIP instructs you to perform a certain action or procedure.
2. The action box may contain additional information and numbered substeps you must follow to perform the action.
3. The action is followed by a question.
4. If your response to the question is **Yes**, then follow the instructions for a Yes reply.
5. If your response to the question is **No**, then follow the instructions for a No reply.
6. FIPs often ask you to take voltage readings at certain test points within the printer. Sections 11 and 14 contain information on test point locations and signal names.
7. FIPs often ask you to replace a printer component. Section 10 Removal and Replacement Procedures provides you detailed steps for removing and replacing all major parts of the printer.

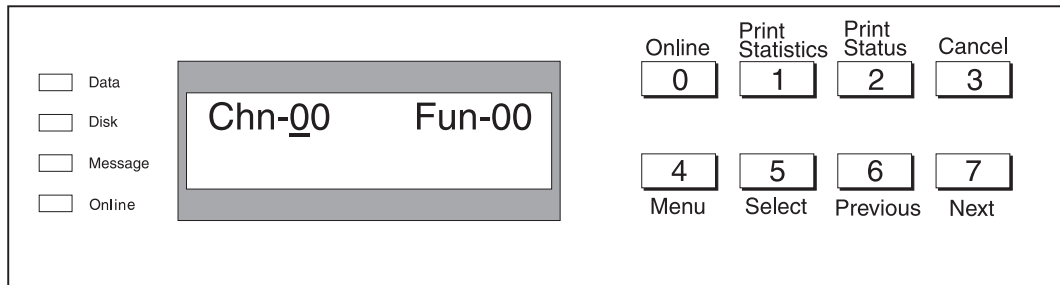
2	500 SIZE SWITCH SIGNAL (FULL) 1. Install a full Paper Cassette into the Feeder. 2. Check the voltage between J302-1 and J302-2. J302  SER275X <table style="margin-left: auto; margin-right: auto;"> <tr><td>EMPTY =</td><td>+0.45 VDC</td></tr> <tr><td>LETTER SEF =</td><td>+2.19 VDC</td></tr> <tr><td>A4 SEF =</td><td>+2.82 VDC</td></tr> <tr><td>ENVELOPE =</td><td>+2.62 VDC</td></tr> <tr><td>LEGAL 13" =</td><td>+2.4 VDC</td></tr> <tr><td>LEGAL 14" =</td><td>+3.08 VDC</td></tr> </table> Is the voltage between J302-1 and J302-2 at a level that corresponds to the paper size that is loaded in the Cassette?	EMPTY =	+0.45 VDC	LETTER SEF =	+2.19 VDC	A4 SEF =	+2.82 VDC	ENVELOPE =	+2.62 VDC	LEGAL 13" =	+2.4 VDC	LEGAL 14" =	+3.08 VDC	Go to step 3	Replace the 500 Sheet Size Switch RRP 1.5
EMPTY =	+0.45 VDC														
LETTER SEF =	+2.19 VDC														
A4 SEF =	+2.82 VDC														
ENVELOPE =	+2.62 VDC														
LEGAL 13" =	+2.4 VDC														
LEGAL 14" =	+3.08 VDC														

- Step number
- Action with substeps, additional information, and a question.
- Action to take if the answer to the question is YES
- Action to take if the answer to the question is NO

Using Printer Diagnostics

FIPs often ask you to perform an output test or an input test. You use the printer Control Panel, reconnected to a specific P/J on the MCU, to access and run the Diagnostics that are presented in this manual.

The Control Panel LCD displays two lines of text, with sixteen characters per line. The text is make up of printer codes and messages that are generated by the MCU PWB. The buttons are used to select and control Diagnostic functions.



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Refer to the Section 7 for a detailed explanation of how to use the Control Panel to run the available Diagnostic routines.

General Notes on Using FIPs

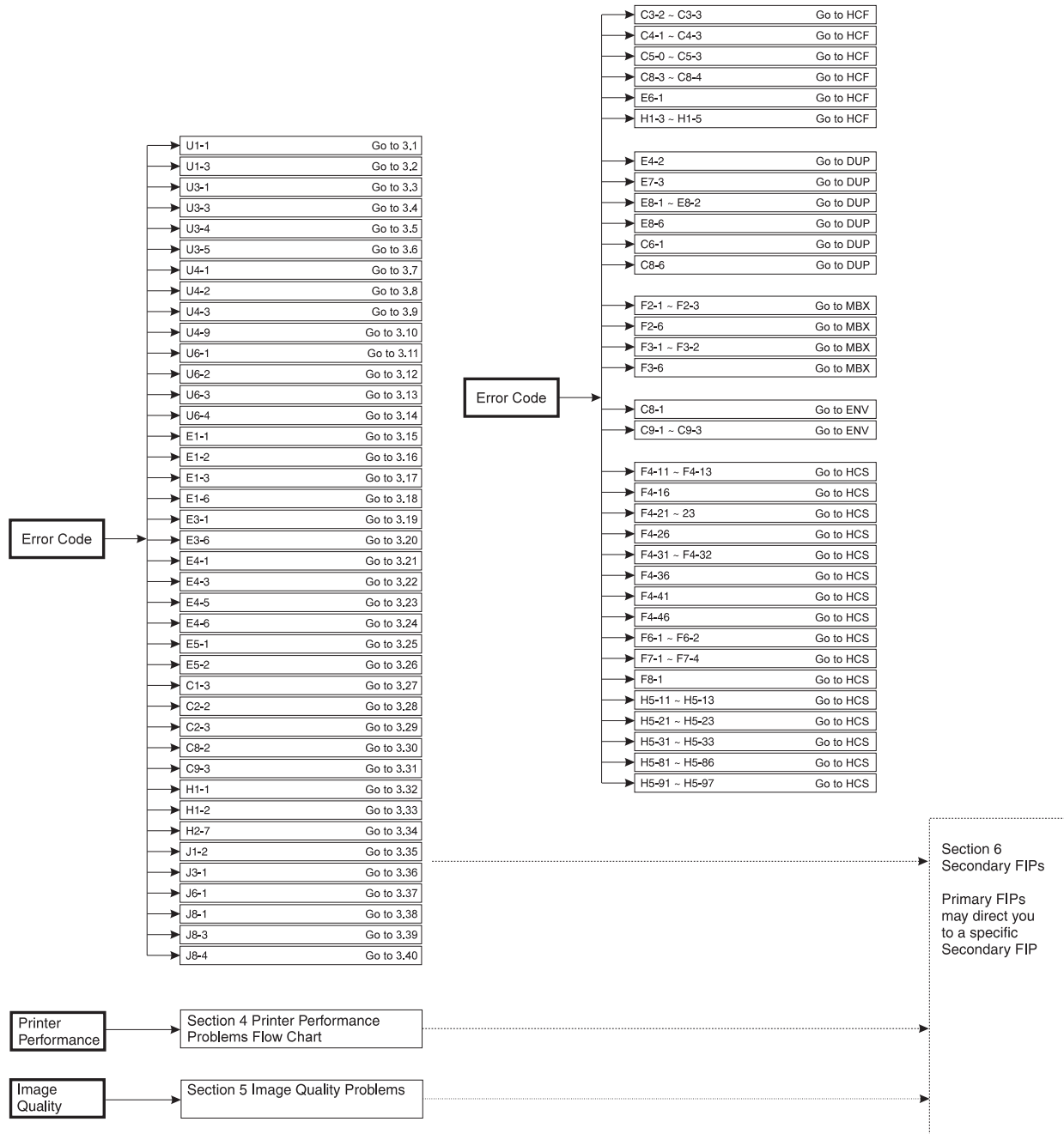
1. FIPs assume there is no malfunction in the printer controller (ESS). If you are unable to fix a problem using the FIPs, we recommend that you replace the printer controller.
2. FIPs frequently use new or "known good" components as troubleshooting tools. We recommend you carry a spare Print Cartridge (EP Cartridge), Fuser Assembly, MCU PWB, Video Controller, and LVPS PWB.
3. Unless indicated otherwise, the instruction "switch ON main power" means for you to switch ON printer power and let the printer proceed through power-on diagnostics and warm-up until it is on-line and ready to print.
4. Conventions used to represent connectors:

P/J XX means a Plug and its corresponding Jack are connected.

PXX means a Plug is disconnected. (Unless this plug is soldered to a PWB).

JXX means a Jack is disconnected. (Unless this jack is soldered to a PWB).
5. When you are instructed to take a voltage reading between "P/J A–B and P/J X–Y", place the red probe (+) of your meter on pin B of P/J A, and place the black probe (–) of your meter on pin Y of P/J X.
6. When you are instructed to take voltage readings between "P/J X and P/J Y" (without specified pin numbers), check all voltage carrying pins. Refer to the Wiring Diagrams for signals and pin numbers.
7. When you are instructed to take a voltage reading, the black probe (–) is generally connected to a pin that is either RTN (Return) or SG (Signal Ground). You can substitute any RTN pin or test point in the printer, and you can use FG (Frame Ground) in place of any SG pin or test point.
8. Unless a FIP instructs you otherwise; before measuring voltages make sure the printer is switched ON, the Print Cartridge and the Paper Cassette are installed, and the Main Interlock Switch is actuated.
9. **All voltage values given in the FIPs are approximate values. Actual measured voltages may vary more than 25% from the values stated in the FIPs. The main purpose of most voltage readings taken in the FIPs is to determine whether or not a component is receiving the correct HIGH voltage value from the power supply and if gating (a voltage drop) occurs during component actuation. Gating signals may be nothing more than a pulse, resulting in a momentary drop in voltage that may be difficult or impossible to read on the average multimeter.**
10. FIPs may instruct you to remove or replace a component. Refer to Section 10 Removal and Replacement Procedures for information on how to remove and reinstall a component.
11. When a FIP instructs you to replace a component, and that component is part of a larger assembly, you should replace the entire assembly.

FIP Flowchart



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3 - Primary FIPs: Error Codes

The FIP Flowchart should have directed you to this section.

Before entering the Error Code FIPs:

1. Is the printer plugged into a recommended AC wall outlet?
2. Is the AC power provided at the wall outlet within recommended specifications?
3. Is the AC power cord connected to the printer.
4. Is the AC power cord in good condition; not frayed or broken?
5. Is the printer properly grounded through the AC wall outlet?
6. Is the printer located in an area where the temperature and humidity are moderate and stable?
7. Is the printer located in an area that is free of dust?
8. Is the printer located in an area away from water outlets, steamers, electric heaters, volatile gases, or open flames?
9. Is the printer shielded from the direct rays of the sun?
10. Does the printer have recommended space around all sides for proper ventilation?
11. Is the printer sitting on a level and stable surface?
12. Is recommended paper stock being used in the printer?
13. Does the customer use the printer as instructed in the 3260/4032 Print System User Manual?
14. Are consumables, such as the Print Cartridge (EP Cartridge), replaced at recommended intervals?

3.1 Error Code U1-1

There is a problem with the Main Motor.

Logic Control on the MCU PWB detected a problem with the Main Motor.

Step	Actions and Questions	Yes	No
	SUSPECT COMPONENTS The following components are associated with this specific problem. One or more of these components may have failed partially or completely. If you cannot isolate the problem using this FIP, replace each component listed below, one at a time, until the problem disappears. •LVPS Assembly (RRP 9.1)		
1	DRIVE ASSEMBLY INSPECTION 1. Remove the Rear Cover (RRP 1.3) so you can observe the Main Motor and Drive Assembly. 2. Hand rotate (counter clockwise) the Main Motor. Can you easily rotate the Main Motor and do all of the gears on the Main Drive Assembly rotate freely and without binding?	Go to step 8	Go to step 2
2	DRIVE ASSEMBLY INSPECTION 1. Remove the EP Cartridge. 2. Hand rotate (counter clockwise) the Main Motor. Can you easily rotate the Main Motor and do all of the gears on the Main Drive Assembly rotate freely and without binding?	Replace the EP Cartridge with a new one	Go to step 3
3	SUBSYSTEM ISOLATION 1. Open the Left Upper Cover. 2. Touching only the drive gear at the end of the Roll, hand rotate the BTR. Can you easily rotate the BTR?	Go to step 4	Replace the Left Upper Cover (RRP 4.2)
4	SUBSYSTEM ISOLATION 1. Remove the Fuser Assembly (RRP 6.1). 2. Hand rotate (counter clockwise) the Main Motor. Can you easily rotate the Main Motor and do all of the gears on the Main Drive Assembly rotate freely and without binding?	Replace the Fuser Assembly (RRP 6.1)	Go to step 5
5	SUBSYSTEM ISOLATION 1. Remove the Offset Unit (RRP 7.1). 2. Hand rotate (counter clockwise) the Main Motor. Can you easily rotate the Main Motor and do all of the gears on the Main Drive Assembly rotate freely and without binding?	Replace the Offset Unit (RRP 7.1)	Go to step 6

3.1 Error Code U1-1 continued

Step	Actions and Questions	Yes	No
6	SUBSYSTEM ISOLATION 1. Remove the Tray 1 Feed Clutch (RRP 2.2). 2. Hand rotate (counter clockwise) the Main Motor. Can you easily rotate the Main Motor and do all of the gears on the Main Drive Assembly rotate freely and without binding?	Replace the Tray 1 Feed Clutch (RRP 2.2)	Go to step 7
7	SUBSYSTEM ISOLATION 1. Remove the MSI Feed Clutch (RRP 3.5). 2. Hand rotate (counter clockwise) the Main Motor. Can you easily rotate the Main Motor and do all of the gears on the Main Drive Assembly rotate freely and without binding?	Replace the MSI Feed Clutch (RRP 3.5)	Replace the Main Drive Assembly (RRP 8.1)
8	MAIN MOTOR TEST Enter Diagnostic Output Test 4-1 to check the Main Motor function. Does the Main Motor run when you start Output Test 4-1?	Replace the MCU PWB (RRP 9.7)	Replace the Main Drive Assembly (RRP 8.1)

3.2 Error Code U1-3

There is a problem with the LVPS Fan.

Logic Control on the MCU PWB detected a problem with the LVPS Fan.

Step	Actions and Questions	Yes	No
	SUSPECT COMPONENTS The following components are associated with this specific problem. One or more of these components may have failed partially or completely. If you cannot isolate the problem using this FIP, replace each component listed below, one at a time, until the problem disappears. •no recommendations		
1	LVPS FAN TEST Enter Diagnostic Mode - Output Test 4-3 to check the LVPS Fan function. Does Fan rotate when you start Output Test 4-3?	Replace the MCU PWB (RRP 9.7)	Replace the LVPS Assembly (RRP 9.2)

3.3 Error Code U3-1

There is a problem with the ROS.

Logic Control on the MCU PWB received a constant HIGH signal from the Start of Scan (SOS) Sensor.

Step	Actions and Questions	Yes	No
	SUSPECT COMPONENTS The following components are associated with this specific problem. One or more of these components may have failed partially or completely. If you cannot isolate the problem using this FIP, replace each component listed below, one at a time, until the problem disappears. •wiring and connectors linking the components		
1	RESET 1. Switch off printer main power. 2. Wait one minute. 3. Switch on printer main power. Does the U3-1 error code appear?	Go to step 2	Suspect a possible intermittent problem with the MCU PWB, the Laser Diode PWB, the SOS Sensor, or the connectors and wiring linking these components.
2	Replace the MCU PWB (RRP 9.7) Does the U3-1 error code appear?	Replace the ROS Assembly (RRP 5.1)	Problem solved

3.4 Error Code U3-3**There is a problem with the Start of Scan (SOS) Sensor.**

Logic Control on the MCU PWB detected that the time between signals from the Start of Scan Sensor was longer than specified.

Step	Actions and Questions	Yes	No
	SUSPECT COMPONENTS The following components are associated with this specific problem. One or more of these components may have failed partially or completely. If you cannot isolate the problem using this FIP, replace each component listed below, one at a time, until the problem disappears. •wiring and connectors linking the components		
1	RESET 1. Switch off printer main power. 2. Wait one minute. 3. Switch on printer main power. Does the U3-3 error code appear?	Go to step 2	Suspect a possible intermittent problem with the MCU PWB, the Laser Diode PWB, the SOS Sensor, or the connectors and wiring linking these components.
2	LVPS +5VDC CHECK Measure the voltage between J400-7 and FG, and between J400-8 and FG on the MCU PWB. Is there +5VDC between J400-7 and FG, and +5VDC between J400-8 and FG?	Go to step 3	Replace the LVPS Assembly (RRP 9.2)
3	Replace the MCU PWB (RRP 9.7) Does the U3-3 error code appear?	Replace the ROS Assembly (RRP 5.1)	Problem solved

3.5 Error Code U3-4

There is a problem with the Start of Scan (SOS) Sensor.

Logic Control on the MCU PWB detected that the time between signals from the Start of Scan Sensor was shorter than specified.

Step	Actions and Questions	Yes	No
	SUSPECT COMPONENTS The following components are associated with this specific problem. One or more of these components may have failed partially or completely. If you cannot isolate the problem using this FIP, replace each component listed below, one at a time, until the problem disappears. •wiring and connectors linking the components		
1	RESET 1. Switch off printer main power. 2. Wait one minute. 3. Switch on printer main power. Does the U3-4 error code appear?	Go to step 2	Suspect a possible intermittent problem with the MCU PWB, the Laser Diode PWB, the SOS Sensor, or the connectors and wiring linking these components.
2	LVPS +5VDC CHECK Measure the voltage between J400-7 and FG, and between J400-8 and FG on the MCU PWB. Is there +5VDC between J400-7 and FG, and +5VDC between J400-8 and FG?	Go to step 3	Replace the LVPS Assembly (RRP 9.2)
3	Replace the MCU PWB (RRP 9.7) Does the U3-4 error code appear?	Replace the ROS Assembly (RRP 5.1)	Problem solved

3.6 Error Code U3-5**There is a problem with the ROS.**

Logic Control on the MCU PWB detected that the ROS Motor has not come up to full speed within the specified time.

Step	Actions and Questions	Yes	No
	SUSPECT COMPONENTS The following components are associated with this specific problem. One or more of these components may have failed partially or completely. If you cannot isolate the problem using this FIP, replace each component listed below, one at a time, until the problem disappears. •wiring and connectors linking the components		
1	RESET 1. Switch off printer main power. 2. Wait one minute. 3. Switch on printer main power. Does the U3-5 error code appear?	Go to step 2	Suspect a possible intermittent problem with the MCU PWB, the ROS Motor, the SOS Sensor, or the connectors and wiring linking these components.
2	ROS MOTOR TEST Enter Diagnostic Mode - Output Test 6-75 to check the ROS Motor function. Does the ROS Motor run when you start Output Test 6-75?	Go to step 4	Go to step 3
3	LVPS +24VDC CHECK Measure the voltage between J400-5 and FG, and between J400-6 and FG on the MCU PWB. Is there +24VDC between J400-5 and FG, and +24VDC between J400-6 and FG?	Replace the ROS Assembly (RRP 5.1)	Replace the LVPS Assembly (RRP 9.2)
4	Replace the MCU PWB (RRP 9.7) Does the U3-5 error code appear?	Refer to the wiring diagrams Section 14 and check for a broken wire between components	Problem solved

3.7 Error Code U4-1

There is a problem with the Fuser.

Logic Control on the MCU PWB detected that the Thermistor remained on for longer than the specified time.

Step	Actions and Questions	Yes	No
	SUSPECT COMPONENTS The following components are associated with this specific problem. One or more of these components may have failed partially or completely. If you cannot isolate the problem using this FIP, replace each component listed below, one at a time, until the problem disappears. •wiring and connectors linking the components		
1	FUSER WARM-UP 1. Switch off printer main power. 2. Remove the Fuser Full Cover (RRP 1.1) so you can observe the Heat Rods. 3. Switch on printer main power and observe the ends of the Fuser Assembly. Do the Heat Rods glow?	Go to step 4	Go to step 2
2	FUSER AC POWER 1. Switch on printer main power. 2. Measure the AC voltage between J23-2 and J23-6 on the AC Driver PWB. Is there 110VAC between J23-2 and J23-6?	Go to step 3	Replace the AC Driver PWB (RRP 9.3)
3	Replace the MCU PWB (RRP 9.7) Does the U4-1 error code appear?	Go to step 4	Problem solved
4	Replace the Fuser Assembly (RRP 6.1) Does the U4-1 error code appear?	Refer to the wiring diagrams Section 14 and check for a broken wire or a loose connection between components	Problem solved

3.8 Error Code U4-2

There is a problem with the Fuser.

Logic Control on the MCU PWB detected the Fuser temperature exceeded the temperature set for Fuser overheat.

Step	Actions and Questions	Yes	No
	SUSPECT COMPONENTS The following components are associated with this specific problem. One or more of these components may have failed partially or completely. If you cannot isolate the problem using this FIP, replace each component listed below, one at a time, until the problem disappears. •wiring and connectors linking the components		
1	Replace the Fuser Assembly (RRP 6.1) Does the U4-2 error code appear?	Go to step 2	Problem solved
2	Replace the MCU PWB (RRP 9.7) Does the U4-2 error code appear?	Go to step 3	Problem solved
3	Replace the AC Driver PWB (RRP 9.3) Does the U4-2 error code appear?	Refer to the wiring diagrams Section 14 and check for a broken wire or a loose connection between components	Problem solved

3.9 Error Code U4-3

There is a problem with the Fuser.

Logic Control on the MCU PWB sensed that the Fuser Thermistor opened.

Step	Actions and Questions	Yes	No
	SUSPECT COMPONENTS The following components are associated with this specific problem. One or more of these components may have failed partially or completely. If you cannot isolate the problem using this FIP, replace each component listed below, one at a time, until the problem disappears. •wiring and connectors linking the components		
1	Replace the Fuser Assembly (RRP 6.1) Does the U4-3 error code appear?	Go to step 2	Problem solved
2	Replace the MCU PWB (RRP 9.7) Does the U4-3 error code appear?	Refer to the wiring diagrams Section 14 and check for a broken wire or a loose connection between components	Problem solved

3.10 Error Code U4-9

There is a problem with the Fuser Fan.

Logic control on the MCU PWB received a Fan Alarm signal from the Fuser Fan.

Step	Actions and Questions	Yes	No
	SUSPECT COMPONENTS The following components are associated with this specific problem. One or more of these components may have failed partially or completely. If you cannot isolate the problem using this FIP, replace each component listed below, one at a time, until the problem disappears. •wiring and connectors linking the components		
1	FUSER FAN TEST Enter Diagnostic Mode - Output Test 4-2 to check the Fuser Fan function Does the Fuser Fan run when you start Output Test 4-2?	Replace the MCU PWB (RRP 9.7)	Go to step 2
2	LVPS +24VDC CHECK Measure the voltage between J400-5 and FG, and between J400-6 and FG on the MCU PWB. Is there +24VDC between J400-5 and FG, and +24VDC between J400-6 and FG?	Replace the Fuser Fan (PL1.1.8)	Replace the LVPS Assembly (RRP 9.2)

3.11 Error Code U6-1

There is a problem with the printer control program.

Logic Control on the MCU PWB had a problem with printer control.

Step	Actions and Questions	Yes	No
	SUSPECT COMPONENTS The following components are associated with this specific problem. One or more of these components may have failed partially or completely. If you cannot isolate the problem using this FIP, replace each component listed below, one at a time, until the problem disappears. •wiring and connectors linking the components		
1	RESET 1. Switch off printer main power. 2. Wait one minute. 3. Switch on printer main power. Does the U6-1 error code appear?	Go to step 2	Suspect a possible intermittent problem with the MCU PWB, the LVPS, or the connectors and wiring linking these components.
2	LVPS +5VDC CHECK Measure the voltage between J400-7 and FG, and between J400-8 and FG on the MCU PWB. Is there a steady +5VDC between J400-7 and FG, and a steady +5VDC between J400-8 and FG?	Go to step 3	Replace the LVPS Assembly (RRP 9.2)
3	Replace the MCU PWB (RRP 9.7) Does the U6-1 error code appear?	Replace the Video Controller (RRP 9.8)	Problem solved

3.12 Error Code U6-2

There is a problem reading information from RAM.

Logic control on the MCU PWB had a problem reading information from RAM.

Step	Actions and Questions	Yes	No
	SUSPECT COMPONENTS The following components are associated with this specific problem. One or more of these components may have failed partially or completely. If you cannot isolate the problem using this FIP, replace each component listed below, one at a time, until the problem disappears. •wiring and connectors linking the components		
1	RESET 1. Switch off printer main power. 2. Wait one minute. 3. Switch on printer main power. Does the U6-2 error code appear?	Go to step 2	Suspect a possible intermittent problem with the MCU PWB, the LVPS, or the connectors and wiring linking these components.
2	LVPS +5VDC CHECK Measure the voltage between J400-7 and FG, and between J400-8 and FG on the MCU PWB. Is there a steady +5VDC between J400-7 and FG, and a steady +5VDC between J400-8 and FG?	Go to step 3	Replace the LVPS Assembly (RRP 9.2)
3	Replace the MCU PWB (RRP 9.7) Does the U6-2 error code appear?	Replace the Video Controller (RRP 9.8)	Problem solved

3.13 Error Code U6-3

There is an unnamed problem with non-volatile memory.

Logic Control on the MCU PWB had a problem with NVRAM.

Step	Actions and Questions	Yes	No
	SUSPECT COMPONENTS The following components are associated with this specific problem. One or more of these components may have failed partially or completely. If you cannot isolate the problem using this FIP, replace each component listed below, one at a time, until the problem disappears. •wiring and connectors linking the components		
1	RESET 1. Switch off printer main power. 2. Wait one minute. 3. Switch on printer main power. Does the U6-3 error code appear?	Go to step 2	Suspect a possible intermittent problem with the MCU PWB, the LVPS, or the connectors and wiring linking these components.
2	LVPS +5VDC CHECK Measure the voltage between J400-7 and FG, and between J400-8 and FG on the MCU PWB. Is there a steady +5VDC between J400-7 and FG, and a steady +5VDC between J400-8 and FG?	Go to step 3	Replace the LVPS Assembly (RRP 9.2)
3	Replace the MCU PWB (RRP 9.7) Does the U6-3 error code appear?	Replace the Video Controller (RRP 9.8)	Problem solved

3.14 Error Code U6-4

There is a problem reading information from non-volatile memory.

Logic control on the MCU PWB had a problem reading information from NVRAM.

Step	Actions and Questions	Yes	No
	SUSPECT COMPONENTS The following components are associated with this specific problem. One or more of these components may have failed partially or completely. If you cannot isolate the problem using this FIP, replace each component listed below, one at a time, until the problem disappears. •wiring and connectors linking the components		
1	RESET 1. Switch off printer main power. 2. Wait one minute. 3. Switch on printer main power. Does the U6-4 error code appear?	Go to step 2	Suspect a possible intermittent problem with the MCU PWB, the LVPS, or the connectors and wiring linking these components.
2	LVPS +5VDC CHECK Measure the voltage between J400-7 and FG, and between J400-8 and FG on the MCU PWB. Is there a steady +5VDC between J400-7 and FG, and a steady +5VDC between J400-8 and FG?	Go to step 3	Replace the LVPS Assembly (RRP 9.2)
3	Replace the MCU PWB (RRP 9.7) Does the U6-4 error code appear?	Replace the Video Controller (RRP 9.8)	Problem solved

3.15 Error Code E1-1

There is a paper jam at the Registration Sensor

Logic Control on the MCU PWB sensed the Registration Sensor was not actuated within the specified time since paper feed.

Step	Actions and Questions	Yes	No
	SUSPECT COMPONENTS The following components are associated with this specific problem. One or more of these components may have failed partially or completely. If you cannot isolate the problem using this FIP, replace each component listed below, one at a time, until the problem disappears. •wiring and connectors linking the components		
1	PAPER PATH INSPECTION Inspect the paper path for paper scraps that may cause a paper jam. Is the paper path free of paper scraps?	Go to step 2	clear the paper path
2	PAPER INSPECTION Inspect the paper that is loaded in the paper cassette. Is the paper loaded in the cassette wrinkled or damaged?	Replace with new paper	Go to step 3
3	PAPER SIZE INSPECTION Inspect the cassette paper guides. Are the guides set to the size of paper loaded in the cassette?	Go to step 4	Adjust the guides
4	PAPER TRAVEL INSPECTION Open the Left Upper Cover and observe the position of the jammed paper. Is the sheet of paper skewed?	Replace the Feed, Nudger, and Retard Rolls (RRP 2.3)	Go to step 5
5	REGISTRATION SENSOR TEST 1. Enter Diagnostic Mode - Input H/L 8-5 (8-32 if the jam occurred during Duplex operation). 2. Open the Left Upper Cover. 3. Insert, then remove, a sheet of paper into the Registration Sensor. Does the Control Panel LCD display H when you insert the paper into the Registration Sensor, and does the LCD display L when you remove the paper?	Go to step 6	Replace the Registration Sensor (RRP 4.6).

3.15 Error Code E1-1 continued

Step	Actions and Questions	Yes	No
6	Replace the MCU PWB (RRP9.7). Does the E1-1 error code appear?	Refer to the wiring diagrams Section 14 and check for a broken wire or loose connection between components	Problem solved

3.16 Error Code E1-2

There is a paper jam between the Registration Sensor and the Fuser Exit Switch

Logic Control on the MCU PWB sensed the Fuser Exit Switch was not actuated within the specified time since the Registration Clutch was actuated.

Step	Actions and Questions	Yes	No
	SUSPECT COMPONENTS The following components are associated with this specific problem. One or more of these components may have failed partially or completely. If you cannot isolate the problem using this FIP, replace each component listed below, one at a time, until the problem disappears. •wiring and connectors linking the components		
1	PAPER PATH INSPECTION Inspect the paper path for paper scraps that may cause a paper jam. Is the paper path free of paper scraps?	Go to step 2	clear the paper path
2	PAPER INSPECTION Inspect the paper that is loaded in the paper cassette. Is the paper loaded in the cassette wrinkled or damaged?	Replace the paper with new paper	Go to step 3
3	PAPER TRAVEL INSPECTION Open the Left Upper Cover and observe the position of the jammed paper. Did the sheet of paper stop at the Registration Rolls?	Go to step 4	Go to step 5
4	REGISTRATION CLUTCH TEST 1. Enter Diagnostic Mode - Output Test 8-1 to start the Main Motor, and Output Test 8-10 to check the Registration Clutch function. 2. Press the Main Interlock Switch and open the Left Upper Cover to observe the Registration Rolls. Does the Registration Roll rotate when you start Output Test 8-10?	Clean the Registration Rollers or replace the Left Upper Cover Assembly (RRP 4.2)	Replace the Registration Clutch (RRP 4.1)
5	REGISTRATION SENSOR TEST 1. Enter Diagnostic Mode - Input H/L 8-5 (8-32 if the jam occurred during Duplex operation). 2. Open the Left Upper Cover. 3. Insert, then remove, a sheet of paper into the Registration Sensor. Does the Control Panel LCD display H when you insert the paper into the Registration Sensor, and does the LCD display L when you remove the paper?	Go to step 6	Replace the Registration Sensor (RRP 4.6).

3.16 Error Code E1-2 continued

Step	Actions and Questions	Yes	No
6	PAPER TRAVEL INSPECTION Open the Left Upper Cover and observe the position of the jammed paper. Did the sheet of paper stop on the Drum?	Go to step 7	Go to step 9
7	DRUM INSPECTION Open the Left Upper Cover and open the Drum Shutter. Are the stripper fingers damaged or is there paper stuck under the fingers or stuck between the Drum and CRU frame?	Replace the EP Cartridge.	Go to step 8
8	DRUM ROTATION TEST 1. Open the Left Upper Cover and open the Drum Shutter. 2. Hand rotate (counter clockwise) the Main Drive Motor. Does the Drum rotate smoothly and without binding?	Go to step 9	Replace the EP Cartridge
9	PAPER TRAVEL INSPECTION Open the Left Upper Cover, and observe the position of the jammed paper. Did the sheet of paper stop while exiting the Fuser?	Go to step 10	Go to step 11
10	FUSER INSPECTION 1. Remove the three screws securing the Fuser Left Cover and remove the Cover so you can observe the Fuser Rolls. 2. Hand rotate (counter clockwise) the Main Drive Motor. Does the Pressure Roll rotate smoothly and are the Fuser Stripper Fingers undamaged?	Go to step 11	Replace the Fuser Assembly (RRP 6.1)
11	PAPER TRAVEL INSPECTION Remove the Fuser Full Cover (RRP 1.1) and observe the position of the jammed paper. Did the sheet of paper stop in the Offset Unit?	Go to step 12	Go to step 13
12	OFFSET UNIT INSPECTION Check the Offset Unit for lodged scraps paper or damage. Is the Offset Unit clean and undamaged?	Go to step 13	Clean or replace the Offset Unit Assembly (RRP 7.1)

3.16 Error Code E1-2 continued

Step	Actions and Questions	Yes	No
13	FUSER EXIT SENSOR TEST 1. Enter Diagnostic Mode - Input H/L 10-23 (8-34 if the jam occurred during Duplex operation). 2. Insert, then remove, a sheet of paper into the Fuser Exit Sensor. Does the Control Panel LCD display H when you insert the paper into the Fuser Exit Sensor, and does the LCD display L when you remove the paper?	Go to step 14	Replace the Fuser Exit Sensor (PL9.1.12)
14	Replace the MCU PWB (RRP 9.7). Does the E1-2 error code appear?	Refer to the wiring diagrams Section 14 and check for a broken wire or loose connection between components	Problem solved

3.17 Error Code E1-3**There is a paper jam between the Fuser Exit Switch and the Face Up Exit Sensor**

Logic Control on the MCU PWB sensed the Face Up Exit Sensor was not actuated within the specified time since the Fuser Exit Switch was actuated.

Step	Actions and Questions	Yes	No
	SUSPECT COMPONENTS The following components are associated with this specific problem. One or more of these components may have failed partially or completely. If you cannot isolate the problem using this FIP, replace each component listed below, one at a time, until the problem disappears. •wiring and connectors linking the components		
1	OFFSET UNIT INSPECTION 1. Remove the Fuser Full Cover (RRP 1.1). 2. Check the Offset Unit for lodged scraps paper or damage. Is the Offset Unit clean and undamaged?	Go to step 2	Clean or replace the Offset Unit Assembly (RRP 7.1)
2	FACE UP CLUTCH TEST 1. Enter Diagnostic Mode - Output Test 10-53 to check the Face Up Clutch function. 2. With 10-53 on, hand rotate (counter clockwise) the Main Motor. Do the Offset Rollers rotate?	Go to step 3	Replace the Offset Unit Assembly (RRP 7.1)
3	FACE UP EXIT SENSOR TEST 1. Enter Diagnostic Mode - Input H/L 10-24. 2. Insert, then remove, a sheet of paper into the Face Up Exit Sensor actuator. Does the Control Panel LCD display H when you insert the paper into the Face Up Exit Sensor, and does the LCD display L when you remove the paper?	Go to step 4	Replace the Face Up Exit Sensor (RRP 7.5)
4	EXIT GATE SOLENOID TEST Enter Diagnostic Mode - Output Test 10-51 to test the Exit Gate Solenoid function. Does the Exit Gate Solenoid actuate when you run Output Test 10-51?	Go to step 5	Replace the Exit Gate Solenoid (RRP 7.3)

Step	Actions and Questions	Yes	No
5	Replace the MCU PWB (RRP 9.7). Does the E1-3 error code appear?	Refer to the wiring diagrams Section 14 and check for a broken wire or loose connection between components	Problem solved

Logic Control on the MCU PWB sensed the Registration Sensor was on while the printer was in standby.

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3.19 Error Code E3-1

There is a paper jam at the Fuser Exit Switch

Logic Control on the MCU PWB sensed the Fuser Exit Switch did not deactuate within the specified time after the Switch actuated.

Step	Actions and Questions	Yes	No
	SUSPECT COMPONENTS The following components are associated with this specific problem. One or more of these components may have failed partially or completely. If you cannot isolate the problem using this FIP, replace each component listed below, one at a time, until the problem disappears. •wiring and connectors linking the components		
1	PAPER TRAVEL INSPECTION 1. Remove the Fuser Full Cover (RRP 1.1). 2. Observe the position of the sheet of paper. Did the sheet of paper stop on the Fuser Exit Switch?	Go to step 2	Go to step 3
2	FUSER EXIT SENSOR TEST 1. Enter Diagnostic Mode - Input H/L 10-23 (8-34 if the jam occurred during Duplex operation). 2. Insert, then remove, a sheet of paper into the Fuser Exit Sensor. Does the Control Panel LCD display H when you insert the paper into the Fuser Exit Sensor, and does the LCD display L when you remove the paper?	Go to step 3	Replace the Fuser Exit Sensor (PL9.1.12)
3	PAPER TRAVEL INSPECTION Observe the position of the sheet of paper. Is the trail edge of the paper still in the Fuser?	Go to step 4	Go to step 5
4	FUSER INSPECTION 1. Remove the three screws securing the Fuser Left Cover and remove the Cover so you can observe the Fuser Rolls. 2. Hand rotate (counter clockwise) the Main Drive Motor. Does the Pressure Roll rotate smoothly and are the Fuser Stripper Fingers undamaged?	Go to step 5	Replace the Fuser Assembly (RRP 6.1)
5	FACE UP CLUTCH TEST 1. Enter Diagnostic Mode - Output Test 10-53 to check the Face Up Clutch function. 2. With 10-53 on, hand rotate (counter clockwise) the Main Motor. Do the Offset Rollers rotate?	Go to step 6	Replace the Offset Unit Assembly (RRP 7.1)

3.19 Error Code E3-1 continued

Step	Actions and Questions	Yes	No
6	Replace the MCU PWB (RRP 9.7). Does the E3-1 error code appear?	Refer to the wiring diagrams Section 14 and check for a broken wire or loose connection between components	Problem solved

3.20 Error Code E3-6

The Fuser Exit Sensor is actuated at printer power on.

Logic Control on the MCU PWB sensed the Fuser Exit Sensor was on while the printer was in standby.

Step	Actions and Questions	Yes	No
	SUSPECT COMPONENTS The following components are associated with this specific problem. One or more of these components may have failed partially or completely. If you cannot isolate the problem using this FIP, replace each component listed below, one at a time, until the problem disappears. •wiring and connectors linking the components		
1	SENSOR INSPECTION Inspect the Fuser Exit Sensor for paper scraps that may have actuated the Sensor or may have caused it to stick. Is the Fuser Exit Sensor free of paper scraps?	Go to step 2	Clear paper from the Sensor
2	FUSER EXIT SENSOR TEST 1. Remove the Fuser Full Cover (RRP 1.1) 2. Enter Diagnostic Mode - Input H/L 10-23. 3. Insert, then remove, a sheet of paper into the Fuser Exit Sensor. Does the Control Panel LCD display H when you insert the paper into the Fuser Exit Sensor, and does the LCD display L when you remove the paper?	Go to step 3	Replace the Fuser Exit Sensor (PL9.1.12)
3	Replace the MCU PWB (RRP 9.7). Does the E3-6 error code appear when you switch on printer main power?	Refer to the wiring diagrams Section 14 and check for a broken wire or loose connection between components	Problem solved

3.21 Error Code E4-1**There is a paper jam at the Face Up Exit Sensor**

Logic Control on the MCU PWB sensed that during Face-Down-Mode the Face Up Exit Sensor did not deactivate within the specified time after the Sensor actuated.

Step	Actions and Questions	Yes	No
	SUSPECT COMPONENTS The following components are associated with this specific problem. One or more of these components may have failed partially or completely. If you cannot isolate the problem using this FIP, replace each component listed below, one at a time, until the problem disappears. •wiring and connectors linking the components		
1	PAPER TRAVEL INSPECTION 1. Remove the Fuser Full Cover (RRP 1.1). 2. Observe the position of the sheet of paper. Did the sheet of paper stop on the Face Up Exit Sensor?	Go to step 3	Go to step 2
2	FACE UP EXIT SENSOR TEST 1. Enter Diagnostic Mode - Input H/L 10-24. 2. Manually actuate and deactivate the Face Up Exit Sensor. Does the Control Panel LCD display H when you insert the paper into the Face Up Exit Sensor, and does the LCD display L when you remove the paper?	Replace the MCU PWB (RRP 9.7)	Replace the Face Up Exit Sensor (RRP 7.5)
3	FACE UP CLUTCH TEST 1. Enter Diagnostic Mode - Output Test 10-53 to check the Face Up Clutch function. 2. Hand rotate (counter clockwise) the Main Motor. Do the Offset Rollers rotate?	Refer to the wiring diagrams Section 14 and check for a broken wire or loose connection between components	Replace the Offset Unit Assembly (RRP 7.1)

3.22 Error Code E4-3

There is a paper jam at the Face Up Exit Switch.

Logic Control on the MCU PWB sensed that during Duplex Mode the Face Up Exit Sensor did not deactuate within the specified time after the Sensor actuated.

Step	Actions and Questions	Yes	No
	SUSPECT COMPONENTS The following components are associated with this specific problem. One or more of these components may have failed partially or completely. If you cannot isolate the problem using this FIP, replace each component listed below, one at a time, until the problem disappears. •wiring and connectors linking the components		
1	PAPER TRAVEL INSPECTION 1. Remove the Fuser Full Cover (RRP 1.1). 2. Observe the position of the sheet of paper. Did the sheet of paper stop on the Face Up Exit Sensor?	Go to step 3	Go to step 2
2	FACE UP EXIT SENSOR TEST 1. Enter Diagnostic Mode - Input H/L 10-24. 2. Manually actuate and deactuate the Face Up Exit Sensor. Does the Control Panel LCD display H when you insert the paper into the Face Up Exit Sensor, and does the LCD display L when you remove the paper?	Replace the MCU PWB (RRP 9.7)	Replace the Face Up Exit Sensor (RRP 7.5)
3	FACE UP CLUTCH TEST 1. Enter Diagnostic Mode - Output Test 10-53 to check the Face Up Clutch function. 2. Hand rotate (counter clockwise) the Main Motor. Do the Offset Rollers rotate?	Go to step 4	Replace the Offset Unit Assembly (RRP 7.1)
4	DUPLEX UNIT INSPECTION Examine the Duplex Unit operation. Is the Duplex Unit functioning correctly, and the rollers are feeding paper from the Offset Unit into the Duplex Unit?	Treat problem as an intermittent	Go to the Duplex Unit Technical Manual and troubleshoot the problem

Logic Control on the MCU PWB sensed that the Face Up Exit Sensor did not actuate within the specified time during the second feed from the Duplex Unit.

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3.24 Error Code E4-6

There is a paper jam at the Face Up Exit Sensor.

Logic Control on the MCU PWB sensed the Face Up Exit Sensor was on while the printer was in standby.

Step	Actions and Questions	Yes	No
	SUSPECT COMPONENTS The following components are associated with this specific problem. One or more of these components may have failed partially or completely. If you cannot isolate the problem using this FIP, replace each component listed below, one at a time, until the problem disappears. •wiring and connectors linking the components		
1	FACE UP EXIT SENSOR INSPECTION 1. Remove the Fuser Full Cover (RRP 1.1). 2. Inspect the Face Up Exit Sensor for paper scraps that may be actuating the sensor. Is the Face Up Exit Sensor actuator free of paper scraps?	Go to step 2	Clear paper from the Sensor
2	FACE UP EXIT SENSOR INSPECTION Inspect the Face Up Exit Sensor for damage. Is the sensor undamaged?	Go to step 3	Replace the Face Up Exit Sensor (RRP 7.5)
3	FACE UP EXIT SENSOR TEST 1. Enter Diagnostic Mode - Input H/L 10-24. 2. Insert, then remove, a sheet of paper into the Face Up Exit Sensor. Does the Control Panel LCD display L when you insert the paper into the Face Up Exit Sensor, and does the LCD display H when you remove the paper?	Go to step 4	Replace the Face Up Exit Sensor (RRP 7.5)
4	Replace the MCU PWB (RRP 9.7). Does the E4-6 error code appear?	Refer to the wiring diagrams Section 14 and check for a broken wire or loose connection between components	Problem solved

The Left Cover is closed, but Logic Control on the MCU PWB sensed the Left Cover Interlock Switch indicates the Cover is open.

Step	Actions and Questions	Yes	No
	SUSPECT COMPONENTS The following components are associated with this specific problem. One or more of these components may have failed partially or completely. If you cannot isolate the problem using this FIP, replace each component listed below, one at a time, until the problem disappears. •wiring and connectors linking the components		
1	LEFT COVER CHECK Open and close the Left Cover. The E5-1 is cleared?	Tighten the Switch Bracket screw (RRP 9.5)	Go to step 2
2	LEFT COVER INTERLOCK SWITCH INSPECTION 1. Remove the Rear Cover (RRP 1.3). 2. Inspect the Left Cover Interlock Switch for damage, such as a broken or missing spring or a broken switch button. Is the switch undamaged?	Go to step 3	Replace the Left Cover Interlock Switch (RRP 9.6)
3	LEFT UPPER COVER INTERLOCK ACTUATOR INSPECTION Open and close the Left Upper Cover while observing the action of the Left Upper Cover Actuator against the Interlock Switch Spring. Is the Left Cover Interlock Actuator pressing against the Interlock Switch Spring?	Go to step 4	Replace the Left Upper Cover (RRP 4.2)
4	LEFT COVER INTERLOCK SWITCH TEST 1. Enter Diagnostic Mode - Input n+1 Test 13-1. 2. Actuate and deactuate the Left Cover Interlock Switch. Does the LCD increment the display number by 1 each time you actuate and deactuate the Left Cover Interlock Switch?	Go to step 5	Replace the Left Cover Interlock Switch (RRP 9.6)
5	Replace the MCU PWB (RRP 9.7). Does the E5-1 error code appear?	Refer to the wiring diagrams Section 14 and check for a broken wire or loose connection between components	Problem solved

3.26 Error Code E5-2

The Left Lower Cover is open.

The Left Lower Cover is closed, but Logic Control on the MCU PWB sensed the Left Lower Cover Interlock Switch is open.

Step	Actions and Questions	Yes	No
	SUSPECT COMPONENTS The following components are associated with this specific problem. One or more of these components may have failed partially or completely. If you cannot isolate the problem using this FIP, replace each component listed below, one at a time, until the problem disappears. wiring and connectors linking the components		
1	LEFT LOWER COVER CHECK Open and close the Left Lower Cover. The E5-2 is cleared?	Problem solved	Go to step 2
2	LEFT LOWER COVER INTERLOCK SWITCH INSPECTION Inspect the Left Lower Cover Interlock Switch for damage. Is the switch damaged?	Replace the Left Lower Cover Interlock Switch (RRP 3.15)	Go to step 3
3	LEFT LOWER COVER INTERLOCK ACTUATOR INSPECTION Inspect the Left Lower Cover Interlock Actuator for damage that may prevent the Cover from actuating the Interlock when the Cover is closed. Is the Interlock Actuator damaged?	Replace the Left Lower Cover (RRP 3.13)	Go to step 4
4	LEFT LOWER COVER INTERLOCK SWITCH TEST 1. Enter Diagnostic Mode - Input n+1 Test 13-1?. 2. Actuate and deactuate the Left Lower Cover Interlock Switch. Does the LCD increment the display number by 1 each time you actuate and deactuate the Interlock Switch?	Replace the Left Lower Cover Interlock Switch (RRP 3.15)	Go to step 5
5	Replace the MCU PWB (RRP 9.7). Does the E5-2 error code appear?	Refer to the wiring diagrams Section 14 and check for a broken wire or loose connection between components	Problem solved

3.27 Error Code C1-3

There is a paper jam between Paper Tray 1 and the Registration Sensor.

Logic Control on the MCU PWB sensed that the Registration Sensor did not actuate within the specified time after the Tray 1 Feed Clutch was actuated.

Step	Actions and Questions	Yes	No
	SUSPECT COMPONENTS The following components are associated with this specific problem. One or more of these components may have failed partially or completely. If you cannot isolate the problem using this FIP, replace each component listed below, one at a time, until the problem disappears. •wiring and connectors linking the components		
1	PAPER INSPECTION Inspect the paper that is loaded in the paper cassette. Is the paper loaded in the cassette wrinkled or damaged?	Replace the paper with new paper	Go to step 2
2	PAPER PATH INSPECTION Inspect the paper path for paper scraps or foreign objects that could cause a paper jam. Is the paper path clear?	Go to step 3	Clear the paper path
3	TRAY 1 LIFT UP MOTOR TEST Enter Diagnostic Mode - Output Test 7-18 to test the Tray 1 Lift Up Motor function. Does the Motor switch on when you start Output Test 7-18?	Go to step 4	Replace Tray 1 Lift Up Motor (RRP 2.1)
4	TRAY 1 FEED CLUTCH TEST Enter Diagnostic Mode - Output Test 8-1 to start the Main Motor, and Output Test 8-12 to check the Tray 1 Feed Clutch function. Does the Tray 1 Feed Clutch actuate when you start Output Test 8-12?	Go to step 5	Replace the Tray 1 Feed Clutch (RRP 2.2)
5	FEED, NUDGER, AND RETARD ROLL CHECK After performing step 4, open the Left Upper Cover. Was a sheet of paper fed into the Registration area?	Go to step 6	Replace Tray 1 Feed Rolls (RRP 2.3)
6	REGISTRATION SENSOR TEST 1. Enter Diagnostic Mode - Input H/L 8-5 (8-32 if the jam occurred during Duplex operation). 2. Insert, then remove, a sheet of paper into the Registration Sensor. Does the Control Panel LCD display H when you insert the paper into the Registration Sensor, and does the LCD display L when you remove the paper?	Replace the MCU PWB (RRP 9.7)	Replace the Registration Sensor (RRP 4.6).

3.28 Error Code C2-3

There is a paper jam between Paper Tray 2 and the Registration Sensor.

Logic Control on the MCU PWB sensed that the Registration Sensor did not actuate within the specified time after the Tray 2 Feed Clutch was actuated.

Step	Actions and Questions	Yes	No
	SUSPECT COMPONENTS The following components are associated with this specific problem. One or more of these components may have failed partially or completely. If you cannot isolate the problem using this FIP, replace each component listed below, one at a time, until the problem disappears. •wiring and connectors linking the components		
1	PAPER INSPECTION Inspect the paper that is loaded in the paper cassette. Is the paper loaded in the cassette wrinkled or damaged?	Replace the paper with new paper	Go to step 2
2	PAPER PATH INSPECTION Inspect the paper path for paper scraps or foreign objects that could cause a paper jam. Is the paper path clear?	Go to step 3	Clear the paper path
3	TAKE AWAY ROLL CHECK 1. Enter Diagnostic Mode - Output Test 4-1 to start the Main Motor. 2. Open the Tray 2 Transport Cover. Does the Take Away rotate when you run the Main Motor?	Go to step 4	Replace Tray 2 Feeder (RRP 2.13)
4	REGISTRATION SENSOR TEST 1. Enter Diagnostic Mode - Input H/L 8-5 (8-32 if the jam occurred during Duplex operation). 2. Insert, then remove, a sheet of paper into the Registration Sensor. Does the Control Panel LCD display H when you insert the paper into the Registration Sensor, and does the LCD display L when you remove the paper?	Replace the MCU PWB (RRP 9.7)	Replace the Registration Sensor (RRP 4.6).

Logic Control on the MCU PWB sensed the Tray 2 Take Away was on while the printer was in standby.

Step	Actions and Questions	Yes	No
	SUSPECT COMPONENTS The following components are associated with this specific problem. One or more of these components may have failed partially or completely. If you cannot isolate the problem using this FIP, replace each component listed below, one at a time, until the problem disappears. •wiring and connectors linking the components		
1	TRAY 2 TAKE AWAY SENSOR INSPECTION Inspect the Tray 2 Take Away Sensor for contamination or paper scraps that may have actuated the sensor. Is the Sensor clean and free of paper scraps?	Go to step 2	Clean or clear paper scraps from the Sensor
2	TRAY 2 TAKE AWAY SENSOR TEST 1. Enter Diagnostic Mode - Input H/L 8-6. 2. Open the Left Upper Cover. 3. Insert, then remove, a sheet of paper into the Tray 2 Take Away Sensor. Does the Control Panel LCD display L when you insert the paper into the Tray 2 Take Away, and does the LCD display H when you remove the paper?	Go to step 3	Replace the Tray 2 Take Away Sensor (RRP3.16)
3	Replace the MCU PWB (RRP 9.7) Does the C8-2 error code appear?	Refer to the wiring diagrams Section 14 and check for a broken wire or loose connection between components	Problem solved

3.30 Error Code C9-3

There is a paper jam between the MSI Feeder and the Registration Sensor.

Logic Control on the MCU PWB sensed that when paper was fed from the MSI, the Registration Sensor did not actuate within the specified time after the MSI Feed Clutch was actuated.

Step	Actions and Questions	Yes	No
	SUSPECT COMPONENTS The following components are associated with this specific problem. One or more of these components may have failed partially or completely. If you cannot isolate the problem using this FIP, replace each component listed below, one at a time, until the problem disappears. •wiring and connectors linking the components		
1	PAPER INSPECTION Inspect the paper that is loaded in the MSI. Is the paper loaded in the MSI wrinkled or damaged?	Replace the paper with new paper	Go to step 2
2	PAPER PATH INSPECTION Inspect the paper path for paper scraps or foreign objects that could cause a paper jam. Is the paper path clear?	Go to step 3	Clear the paper path
3	MSI FEED ROLL INSPECTION 1. Run Test Print 23-60, feeding from the MSI. 2. Observe the paper in the MSI Tray. Is the paper partially fed out of the MSI Tray?	Replace the MSI Feed Roll (RRP 3.6), Nudger Roll (RRP 3.7), and Pad (RRP 3.9)	Go to step 4
4	MSI DRIVE TEST 1. Remove the Rear Cover (RRP 1.3) so you can observe the Main Drive Assembly and the MSI Drive Gear Assembly. 2. Enter Diagnostic Mode - 8-1 to check the MSI Drive Assembly. Does the Main Drive Assembly rotate the MSI Drive Gear Assembly?	Go to step 5	Replace the MSI Feeder Assembly (RRP 3.1)
5	MSI CLUTCH TEST With Diagnostic Mode 8-1 Main Motor still on, run Diagnostic Mode 8-17 MSI Feed Clutch. Did the MSI Feed Clutch actuate and the Feed Roll start rotating?	Go to step 6	Replace the MSI Feed Clutch (RRP 3.5)

3.30 Error Code C9-3 continued

Step	Actions and Questions	Yes	No
6	REGISTRATION SENSOR TEST 1. Enter Diagnostic Mode - Input H/L 8-5. 2. Insert, then remove, a sheet of paper into the Registration Sensor. Does the Control Panel LCD display H when you insert the paper into the Registration Sensor, and does the LCD display L when you remove the paper?	Go to step 7	Replace the Registration Sensor (RRP 4.6)
7	Replace the MCU PWB (RRP 9.7) Does the C9-3 error code still appear?	Refer to the wiring diagrams Section 14 and check for a broken wire or loose connection between components	Problem solved

3.31 Error Code H1-1

There is a Lift Up problem with Tray 1.

Logic Control on the MCU PWB sensed that Tray 1 was not raising into position in Feeder 1.

Step	Actions and Questions	Yes	No
	SUSPECT COMPONENTS The following components are associated with this specific problem. One or more of these components may have failed partially or completely. If you cannot isolate the problem using this FIP, replace each component listed below, one at a time, until the problem disappears. •wiring and connectors linking the components		
1	TRAY 1 LIFT UP MOTOR TEST 1. Remove the Rear Cover (RRP 1.3). 2. Load paper into Tray 1 and install Tray 1 into Feeder 1. 3. Enter Diagnostic Mode - 7-18 to check the Tray 1 Lift Up Motor. Does the Tray 1 Lift Up Motor run when you start Diagnostic Mode 7-18?	Go to step 2	Replace Tray 1 Lift Up Motor (RRP 2.1)
2	TRAY 1 CHECK Slowly slide Tray 1 out of Feeder 1. Can you hear the Tray 1 bottom plate drop as you slide the Tray out of the Feeder?	Go to step 2	Replace Tray 1
3	TRAY 1 NO PAPER SENSOR TEST 1. Enter Diagnostic Mode - Input H/L 7-7 to check the Tray 1 No Paper Sensor. 2. Remove Tray 1 from the printer and push the Actuator up and then release it. Does the Control Panel LCD display L when you push up on the Actuator, and does the LCD display H when you release the Actuator?	Go to step 4	Replace the Tray 1 No Paper Sensor (RRP2.10)
4	Replace the MCU PWB (RRP 9.7) Does the H1-1 error code still appear?	Refer to the wiring diagrams Section 14 and check for a broken wire or loose connection between components	Problem solved

3.32 Error Code H1-2**There is a Lift Up problem with Tray 2.**

Logic Control on the MCU PWB sensed that Tray 2 was not raising into position in Feeder 2.

Step	Actions and Questions	Yes	No
	SUSPECT COMPONENTS The following components are associated with this specific problem. One or more of these components may have failed partially or completely. If you cannot isolate the problem using this FIP, replace each component listed below, one at a time, until the problem disappears. •wiring and connectors linking the components		
1	TRAY 2 LIFT UP MOTOR TEST 1. Remove the Rear Cover (RRP 1.3). 2. Load paper into Tray 2 and install Tray 2 into Feeder 2. 3. Enter Diagnostic Mode - 7-19 to check the Tray 2 Lift Up Motor. Does the Tray 1 Lift Up Motor run when you start Diagnostic Mode 7-19?	Go to step 2	Replace Tray 2 Lift Up Motor (use RRP 2.1)
2	TRAY 2 CHECK Slowly slide Tray 2 out of Feeder 2. Can you hear the Tray 2 bottom plate drop as you slide the Tray out of the Feeder?	Go to step 2	Replace Tray 2
3	TRAY 2 NO PAPER SENSOR TEST 1. Enter Diagnostic Mode - Input H/L 7-8 to check the Tray 2 No Paper Sensor. 2. Remove Tray 2 from the printer and push the Actuator up and then release it. Does the Control Panel LCD display L when you push up on the Actuator, and does the LCD display H when you release the Actuator?	Go to step 4	Replace the Tray 2 No Paper Sensor (RRP2.10)
4	Replace the MCU PWB (RRP 9.7) Does the H1-2 error code still appear?	Refer to the wiring diagrams Section 14 and check for a broken wire or loose connection between components	Problem solved

3.33 Error Code H2-7

There is a communication problem between the printer and the Duplex Unit.

Logic Control on the MCU PWB could not initialize the Duplex Unit within the specified time.

Step	Actions and Questions	Yes	No
	SUSPECT COMPONENTS The following components are associated with this specific problem. One or more of these components may have failed partially or completely. If you cannot isolate the problem using this FIP, replace each component listed below, one at a time, until the problem disappears. •wiring and connectors linking the components		
1	LVPS +5VDC CHECK Measure the voltage between J400-7 and FG, and between J400-8 and FG on the MCU PWB. Is there +5VDC between J400-7 and FG, and +5VDC between J400-8 and FG?	Go to step 2	Replace the LVPS Assembly (RRP 9.2)
2	Replace the Duplex Module PWB (RRP 12.5) Does the H2-7 error code appear?	Go to step 3	Problem solved
3	Replace the MCU PWB (RRP 9.7) Does the H2-7 error code appear?	Refer to the wiring diagrams Section 14 and check for a broken wire or a loose connection between components	Problem solved

3.34 Error Code J1-2

The CRU is low on toner and should be replaced.

Logic Control on the MCU PWB sensed that at Main Motor start-up the Toner Sensor was on for longer than the specified time.

Step	Actions and Questions	Yes	No
	SUSPECT COMPONENTS The following components are associated with this specific problem. One or more of these components may have failed partially or completely. If you cannot isolate the problem using this FIP, replace each component listed below, one at a time, until the problem disappears. •wiring and connectors linking the components		
1	Replace the CRU with a new one Does the J1-2 error code still appear?	Go to step 2	Problem solved
2	TONER SENSOR TEST 1. Enter Diagnostic Mode - Input H/L 9-4. 2. Open the Upper Left Cover. 3. Install, then remove, a <u>new</u> CRU. Does the Control Panel LCD display L when you install the CRU into the printer, and does the LCD display H when you remove the CRU?	Go to step 3	Replace the Toner Sensor (RRP5.4)
3	Replace the MCU PWB (RRP 9.7) Does the J1-2 error code still appear?	Refer to the wiring diagrams Section 14 and check for a broken wire or loose connection between components	Problem solved

3.35 Error Code J3-1

The EP Cartridge is not installed or is not installed correctly.

Logic Control on the MCU PWB sensed that the CRU Interlock Switch was not actuated.

Step	Actions and Questions	Yes	No
	SUSPECT COMPONENTS The following components are associated with this specific problem. One or more of these components may have failed partially or completely. If you cannot isolate the problem using this FIP, replace each component listed below, one at a time, until the problem disappears. •wiring and connectors linking the components		
1	EP CARTRIDGE CHECK 1. Open the Upper Left Cover. 2. Remove, then reinstall the EP Cartridge. Does the J3-1 error code still appear?	Go to step 2	Problem solved
2	CRU INTERLOCK SWITCH TEST 1. Enter Diagnostic Mode - Input H/L 9-2. 2. Open the Upper Left Cover. 3. Install, then remove, the EP Cartridge. Does the Control Panel LCD display H when you install the EP Cartridge into the printer, and does the LCD display L when you remove the EP Cartridge?	Go to step 3	Replace the CRU Interlock Switch (RRP 5.5)
3	Replace the MCU PWB (RRP 9.7) Does the J3-1 error code still appear?	Refer to the wiring diagrams Section 14 and check for a broken wire or loose connection between components	Problem solved

3.36 Error Code J6-1

The CRU has reached end of life.

Logic Control on the MCU PWB sensed that the EP Cartridge has printed a specified number of prints and should be replaced with a new one.

Step	Actions and Questions	Yes	No
	SUSPECT COMPONENTS The following components are associated with this specific problem. One or more of these components may have failed partially or completely. If you cannot isolate the problem using this FIP, replace each component listed below, one at a time, until the problem disappears. •wiring and connectors linking the components		
1	Replace the EP Cartridge with a new one Does the J6-1 error code still appear?	Go to step 2	Problem solved
2	Replace the MCU PWB (RRP 9.7) Does the J6-1 error code still appear?	Refer to the wiring diagrams Section 14 and check for a broken wire or loose connection between components	Problem solved

3.37 Error Code J8-1

The wrong EP Cartridge is installed in the printer.

Logic Control on the MCU PWB sensed that the EP Cartridge installed is not compatible with the printer.

Step	Actions and Questions	Yes	No
	SUSPECT COMPONENTS The following components are associated with this specific problem. One or more of these components may have failed partially or completely. If you cannot isolate the problem using this FIP, replace each component listed below, one at a time, until the problem disappears. •wiring and connectors linking the components		
1	Replace the EP Cartridge with another one Does the J8-1 error code still appear?	Go to step 2	Problem solved
2	Replace the MCU PWB (RRP 9.7) Does the J8-1 error code still appear?	Refer to the wiring diagrams Section 14 and check for a broken wire or loose connection between components	Problem solved

3.38 Error Code J8-3**A CRU Memory error occurred.**

Logic Control on the MCU PWB could not read CRU Memory data.

Step	Actions and Questions	Yes	No
	SUSPECT COMPONENTS The following components are associated with this specific problem. One or more of these components may have failed partially or completely. If you cannot isolate the problem using this FIP, replace each component listed below, one at a time, until the problem disappears. •wiring and connectors linking the components		
1	LVPS +5VDC CHECK Measure the voltage between J400-7 and FG, and between J400-8 and FG on the MCU PWB. Is there +5VDC between J400-7 and FG, and +5VDC between J400-8 and FG?	Go to step 2	Replace the LVPS Assembly (RRP 9.2)
2	Replace the EP Cartridge with another one Does the J8-3 error code still appear?	Go to step 3	Problem solved
3	Replace the MCU PWB (RRP 9.7) Does the J8-3 error code still appear?	Refer to the wiring diagrams Section 14 and check for a broken wire or loose connection between components	Problem solved

3.39 Error Code J8-4

A CRU memory communication error has occurred.

Logic Control on the MCU PWB could not access CRU Memory data.

Step	Actions and Questions	Yes	No
	SUSPECT COMPONENTS The following components are associated with this specific problem. One or more of these components may have failed partially or completely. If you cannot isolate the problem using this FIP, replace each component listed below, one at a time, until the problem disappears. •wiring and connectors linking the components		
1	LVPS +5VDC CHECK Measure the voltage between J400-7 and FG, and between J400-8 and FG on the MCU PWB. Is there +5VDC between J400-7 and FG, and +5VDC between J400-8 and FG?	Go to step 2	Replace the LVPS Assembly (RRP 9.2)
2	Replace the EP Cartridge with another one Does the J8-4 error code still appear?	Go to step 3	Problem solved
3	Replace the MCU PWB (RRP 9.7) Does the J8-4 error code still appear?	Refer to the wiring diagrams Section 14 and check for a broken wire or loose connection between components	Problem solved

Section 4 - Primary FIPs: Printer Performance Problems**Contents**

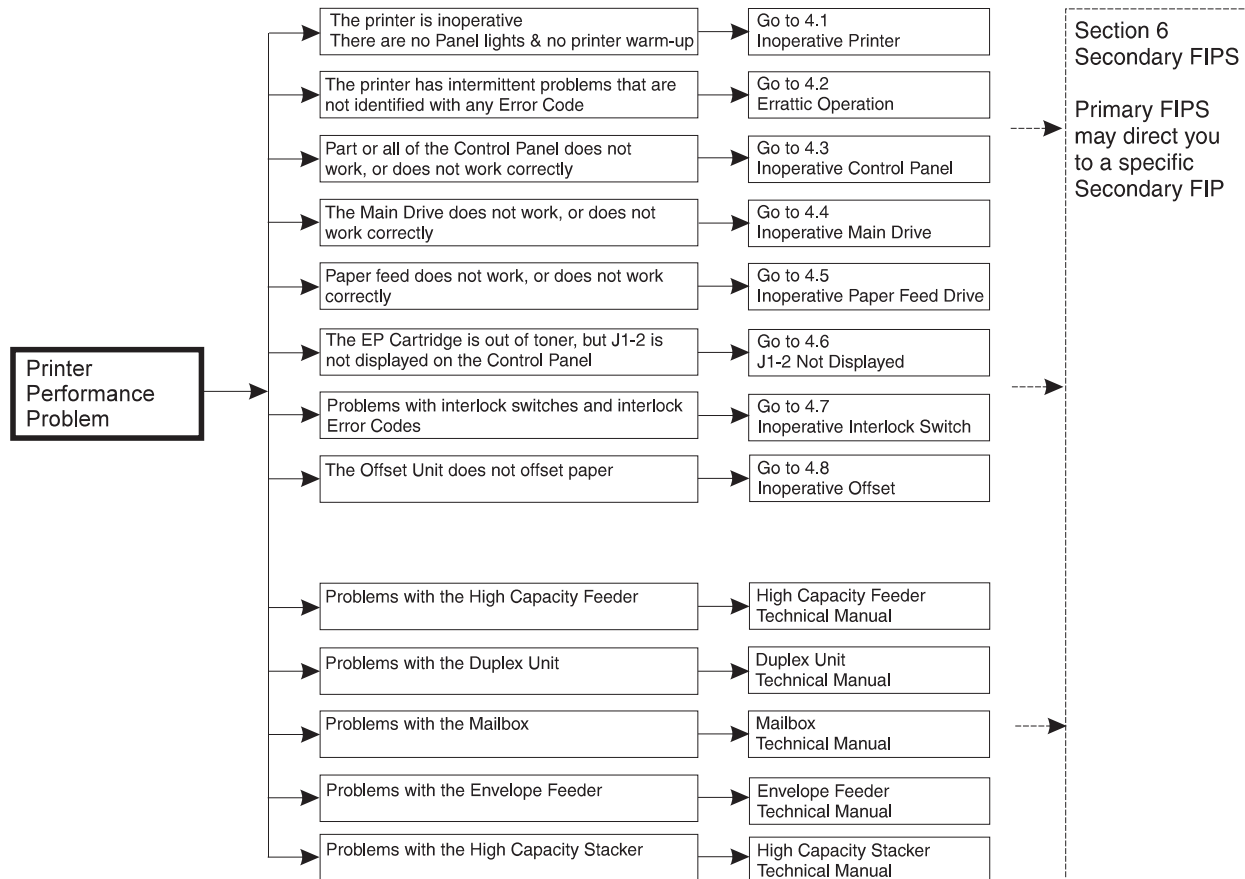
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Before entering the Printer Performance Problems FIPs:

1. Is the printer plugged into a recommended AC wall outlet?
2. Is the AC power provided at the wall outlet within recommended specifications?
3. Is the AC power cord connected to the printer.
4. Is the AC power cord in good condition; not frayed or broken?
5. Is the printer properly grounded through the AC wall outlet?
6. Is the printer located in an area where the temperature and humidity are moderate and stable?
7. Is the printer located in an area that is free of dust?
8. Is the printer located in an area away from water outlets, steamers, electric heaters, volatile gases, or open flames?
9. Is the printer shielded from the direct rays of the sun?
10. Does the printer have recommended space around all sides for proper ventilation?
11. Is the printer sitting on a level and stable surface?
12. Is recommended paper stock being used in the printer?
13. Does the customer use the printer as instructed in the User Manual?
14. Are consumables, such as the EP Cartridge replaced at recommended intervals?

Printer Performance Problem Flow Chart

The FIP Flowchart should have directed you to this section. Start at your problem box, then follow the arrow leading to the individual FIP that corresponds to that problem. Primary FIPs may direct you to a Secondary FIP. In the Performance Problems Flowchart, the relationship between Primary and Secondary FIPs is represented by dotted lines



4.1 Inoperative Printer

When you switch on the printer, the Control Panel LEDs do not light, the LCD remains blank, the Fuser Fan does not rotate, and the printer does not go into warm-up.

Step	Actions and Questions	Yes	No
	SUSPECT COMPONENTS The following components are associated with this specific problem. One or more of these components may have failed partially or completely. If you cannot isolate the problem using this FIP, replace each component listed below, one at a time, until the problem disappears. • AC Drive PWB (RRP 9.3) • Fuser Assembly (RRP 6.1) • HVPS Assembly (RRP 9.4) • Main Drive Assembly (RRP 8.1) • ROS Assembly (RRP 5.1) • wiring and connectors linking the components		
1	AC POWER CORD INSPECTION Inspect the AC Power Cord. Is the AC Power Cord plugged into the back of the printer, and is the other end plugged into an AC wall outlet?	Go to step 2	Plug the AC Power Cord into the printer and into an AC wall outlet
2	AC POWER CHECK Check the voltage at the AC wall outlet. Is there approximately 110VAC (or 220VAC if the printer is the 220VAC model) at the AC wall outlet?	Go to step 3	Troubleshoot the AC power at the wall outlet
3	Video Controller CHECK 1. Switch off the Main Switch. 2. Remove the Video Controller (RRP 9.8). 3. Switch on the Main Switch. Do the Control Panel LEDs light up and does the printer go into warm-up?	Replace the Video Controller with a new one (RRP 9.8)	Go to step 4
4	LVPS +5VDC CHECK 1. Remove the Rear Cover (RRP 1.3) 2. Measure the voltage between J400-7 and FG, and between J400-8 and FG on the MCU PWB. Is there +5VDC between J400-7 and FG, and is there +5VDC between J400-8 and FG.	Go to step 5	Go to step 6

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4.2 Erratic Operation

The printer has a variety of intermittent problems, but generally does not complete a print cycle. The problems are generally not identified by displayed Error Codes.

Step	Actions and Questions	Yes	No
	SUSPECT COMPONENTS The following components are associated with this specific problem. One or more of these components may have failed partially or completely. If you cannot isolate the problem using this FIP, replace each component listed below, one at a time, until the problem disappears. • Printer options		
1	Does the printer frequently fail to enter printer warm-up or is the Control Panel frequently inoperative?	Go to FIP 4.1 Inoperative Printer	Go to step 2
2	LVPS +5VDC UNDER LOAD CHECK 1. Remove the Rear Cover (RRP 1.3) 2. Generate 50 Grid Test Patterns. 3. While the printing is generating the Test Patterns, measure the voltage between J400-7 and FG on the MCU PWB. Does the +5VDC measured between J400-7 and FG remain relatively constant throughout the print run, and does not deviate more than a volt during the print run?	Go to step 3	Replace the LVPS Assembly (RRP 9.2)
3	LVPS +24VDC UNDER LOAD CHECK 1. Generate 50 Grid Test Patterns. 2. While the printing is generating the Test Patterns, measure the voltage between J400-5 and FG on the MCU PWB. Does the +24VDC measured between J400-5 and FG remain relatively constant throughout the print run, and does not deviate more than a few volts during the print run?	Go to step 4	Replace the LVPS Assembly (RRP 9.2)
4	TEST PRINT CHECK Was the printer able to generate all of the Test Prints requested in steps 2 and 3?	Go to step 5	Replace the MCU PWB (RRP 9.7)
5	TEST PRINT CHECK Does the printer stop and reset while making test prints?	Go to FIP 6.1 Electrical Noise	Go to step 6

4.2 Erratic Operation continued

Step	Actions and Questions	Yes	No
6	HOST SOFTWARE REPLACEMENT Reload the Host Drive Software or Host Application Software. Does the printer still exhibit erratic operation?	Go to step 7	Problem solved
7	HOST/PRINTER INTERFACE CABLE REPLACEMENT Replace the interface cable connecting the host to the printer. Is the problem still present?	Go to step 8	Problem solved
8	Video Controller REPLACEMENT Replace the Video Controller (RRP 9.8) Does the printer still exhibit erratic operation?	Go to Suspect Components	Problem solved

4.3 Inoperative Control Panel

The Control Panel LEDs, LCD, and/or Keypad do not function or do not function correctly.

Step	Actions and Questions	Yes	No
	SUSPECT COMPONENTS The following components are associated with this specific problem. One or more of these components may have failed partially or completely. If you cannot isolate the problem using this FIP, replace each component listed below, one at a time, until the problem disappears. • wiring and connectors linking the components • Video Controller (RRP 9.7)		
1	CONTROL PANEL TEST 1. Remove the Control Panel from the Top Cover (RRP 1.5) 2. Connect the Control Panel to P 410 on the MCU PWB. 3. Enter Diagnostic Mode (See Section 7). When you enter Diagnostic Mode do the Control Panel LEDs light up and does the LCD display Chn-00 Fun-00?	Go to step 2	Go to step 3
2	ESS MOTHER PWB REPLACEMENT Replace the ESS Mother PWB (RRP 9.10). Is the problem still present?	Replace the MCU PWB (RRP 9.7)	Problem solved
3	LVPS +5VDC CHECK Measure the voltage between J400-7 and FG, and between J400-8 and FG on the MCU PWB. Is there +5VDC between J400-7 and FG, and is there +5VDC between J400-8 and FG.	Replace the Control Panel (RRP 1.5)	Replace the LVPS Assembly (RRP 9.2)

4.4 Inoperative Main Drive Assembly

The Main Drive Assembly does not function

Step	Actions and Questions	Yes	No
	SUSPECT COMPONENTS The following components are associated with this specific problem. One or more of these components may have failed partially or completely. If you cannot isolate the problem using this FIP, replace each component listed below, one at a time, until the problem disappears. • no recommendations		
1	MAIN DRIVE ASSEMBLY TEST Use Diagnostic Mode - Output Test 4-1 to check the Main Motor and Main Drive Assembly. Does the Main Motor run and do the gears of the Drive Assembly rotate normally?	Replace the MCU PWB (RRP 9.7)	Go to step 2
2	MAIN DRIVE ASSEMBLY MANUAL TEST Hand rotate (counter clockwise) the Main Motor. Can you rotate the Main Motor and do the gears of the Drive Assembly rotate easily and without binding?	Go to step 9	Go to step 3
3	EP CARTRIDGE BINDING CHECK 1. Remove the EP Cartridge. 2. Hand rotate (counter clockwise) the Main Motor. Can you rotate the Main Motor and do the gears of the Drive Assembly rotate easily and without binding?	Replace the EP Cartridge with a new one (RRP 5.2)	Go to step 4
4	FUSER ASSEMBLY BINDING CHECK 1. Remove the Fuser Assembly (RRP 6.1). 2. Hand rotate (counter clockwise) the Main Motor. Can you rotate the Main Motor and do the gears of the Drive Assembly rotate easily and without binding?	Replace the Fuser Assembly with a new one (RRP 6.1)	Go to step 5
5	EXIT DRIVE ASSEMBLY BINDING CHECK 1. Lift the Exit Drive Assembly spring-loaded drive gear off of the Main Drive Assembly drive gear. 2. Hand rotate (counter clockwise) the Main Motor. Can you rotate the Main Motor and do the gears of the Drive Assembly rotate easily and without binding?	Replace the Exit Drive Assembly (RRP 7.2)	Go to step 6

4.4 Inoperative Main Drive Assembly continued

Step	Actions and Questions	Yes	No
6	TRAY 2 DRIVE BINDING CHECK 1. Lift the Tray 2 spring-loaded drive gear off of the Main Drive Assembly drive gear. 2. Hand rotate (counter clockwise) the Main Motor. Can you rotate the Main Motor and do the gears of the Drive Assembly rotate easily and without binding?	Replace Tray 2 Drive Assembly (PL3.7.99)	Go to step 7
7	REGISTRATION CLUTCH BINDING CHECK 1. Remove the Registration Clutch (RRP 4.1) 2. Hand rotate (counter clockwise) the Main Motor. Can you rotate the Main Motor and do the gears of the Drive Assembly rotate easily and without binding?	Replace the Registration Clutch with a new one (RRP 4.1)	Go to step 8
8	FEED CLUTCH BINDING CHECK 1. Remove the Feed Clutch (RRP 2.2) 2. Hand rotate (counter clockwise) the Main Motor. Can you rotate the Main Motor and do the gears of the Drive Assembly rotate easily and without binding?	Replace the Feed Clutch with a new one (RRP 2.2)	Replace the Main Drive Assembly (RRP 8.1)
9	LVPS +24VDC CHECK Measure the voltage between J400-5 and FG, and between J400-6 and FG on the MCU PWB. Is there +24VDC between J400-5 and FG, and is there +24VDC between J400-6 and FG?	Replace the Main Drive Assembly (RRP 8.1)	Replace the LVPS Assembly (RRP 9.2)

4.5 Inoperative Paper Feed Drive

Paper feed drive does not work. The problem is not identified by a displayed Error Code.

Step	Actions and Questions	Yes	No
	SUSPECT COMPONENTS The following components are associated with this specific problem. One or more of these components may have failed partially or completely. If you cannot isolate the problem using this FIP, replace each component listed below, one at a time, until the problem disappears. • LVPS Assembly (RRP 9.2) • All paper path sensors (refer to the Parts List) • wiring and connectors linking the components		
1	MAIN DRIVE ASSEMBLY TEST 1. Remove all of the paper trays from the printer. 2. Use Diagnostic Mode - Output Test 8-1 to check the Main Motor and Main Drive Assembly. Does the Main Motor run and do the gears of the Drive Assembly rotate normally?	Go to step 2	Go to FIP 4.4 Inoperative Main Drive Assembly
2	Is the problem with MSI feed?	Go to step 4	Go to step 3
3	TRAY 1 FEED CLUTCH TEST While the Main Motor is running under 8-1, run Output Test 8-12 to actuate Tray 1 Feed Clutch. Does the Feed Clutch actuate and do the Feed Rolls rotate?	Go to step 5	Replace the Tray 1 Feed Clutch (RRP 2.2)
4	MSI FEED CLUTCH TEST While the Main Motor is running under 8-1, run Output Test 8-12 to actuate Tray 1 Feed Clutch. Does the MSI Feed Clutch actuate and do the MSI Feed Rolls rotate?	Go to step 5	Replace the MSI Feed Clutch (RRP 3.5)
5	TEST PRINT STRESS TEST 1. Generate 100 to 200 Grid Test Patterns. 2. Carefully observe the Main Drive Assembly and Feed Clutches as the test runs. Does the test suddenly stop; without any visible paper jam and without any Error Code displayed?	Go to step 6	Treat as an intermittent

4.5 Inoperative Paper Feed Drive continued

Step	Actions and Questions	Yes	No
6	NO PAPER SENSOR REPLACEMENT 1. Replace the No-Paper Sensor in the paper tray used in step 5 2. Generate 100 to 200 Grid Test Patterns. 3. Carefully observe the Main Drive Assembly and Feed Clutches as the test runs. Does the test suddenly stop; without any visible paper jam and without any Error Code displayed?	Replace the MCU PWB (RRP 9.7)	Go to Suspect Components

4.6 J1-2 is not displayed when the EP Cartridge is out of toner

The Control Panel LCD does not display the code J1-2 when the EP Cartridge is out of toner.

Step	Actions and Questions	Yes	No
	SUSPECT COMPONENTS The following components are associated with this specific problem. One or more of these components may have failed partially or completely. If you cannot isolate the problem using this FIP, replace each component listed below, one at a time, until the problem disappears. • LVPS Assembly (RRP 9.2) • Video Controller (RRP 9.7) • wiring and connectors linking the components		
1	TONER SENSOR TEST 1. Use Diagnostic Mode - Input H/L 9-4 to check the Toner Sensor. 2. Insert and remove a new EP Cartridge into the printer. Does the Control Panel LCD display L when the EP Cartridge is in place, and does the LCD display H when you remove the Cartridge?	Replace the MCU PWB (RRP 9.7)	Replace the Toner Sensor (RRP 5.4)

4.7 Inoperative Interlock Switch

The Control Panel LCD either does not display an *interlock open* Error Code whenever a specific door or cover is open, or it does display an *interlock open* Error Code when a specific door or cover is closed.

Step	Actions and Questions	Yes	No
	SUSPECT COMPONENTS The following components are associated with this specific problem. One or more of these components may have failed partially or completely. If you cannot isolate the problem using this FIP, replace each component listed below, one at a time, until the problem disappears. • wiring and connectors linking the components • Printer cover or door (refer to the Parts List)		
1	INTERLOCK SWITCH TEST 1. Use Diagnostic Mode - Input n+1 13-1 to check the interlock switch of the door or cover in question. 2. Manually actuate and deactuate the switch. Does the Control Panel LCD display a number that advances by one digit each time you actuate or deactuate the interlock switch?	Replace the MCU PWB (RRP 9.7)	Replace the Left Lower Cover Interlock Switch (RRP 3.15) or the Left Cover Interlock Switch (RRP 9.6)

4.8 Inoperative Offset

The Offset function does not work or does not work correctly.

Step	Actions and Questions	Yes	No
	SUSPECT COMPONENTS The following components are associated with this specific problem. One or more of these components may have failed partially or completely. If you cannot isolate the problem using this FIP, replace each component listed below, one at a time, until the problem disappears. • wiring and connectors linking the components • LVPS Assembly (RRP 9.2)		
1	MAIN DRIVE ASSEMBLY INSPECTION 1. Remove the Rear Cover Assembly (RRP 1.3) 2. Use Diagnostic Mode - Output Test 8-1 to check the Main Motor and Main Drive Assembly. Does the Main Motor run and do the gears of the Drive Assembly rotate normally?	Go to step 2	Go to FIP 4.4 Inoperative Main Drive Assembly
2	EXIT DRIVE TEST 1. Remove the Fuser Full Cover (RRP 1.1) 2. Use Diagnostic Mode - Output 10-6 to check the Exit Motor in the forward mode. 3. Use Diagnostic Mode - Output 10-7 to check the Exit Motor in the reverse mode. Does the Exit Motor run forward during 10-6 and reverse during 10-7?	Go to step 3	Replace the Exit Drive Assembly (RRP 7.2)
3	OFFSET TEST Use Diagnostic Mode - Output 10-6 and 10-7 to check the movement of the Offset Roll. Does the Offset Roll shift away from the Exit Motor during 10-6 and toward the Motor during 10-7?	Go to step 4	Replace the Offset Unit Assembly (RRP 7.1)
4	MCU PWB REPLACEMENT Replace the MCU PWB (RRP 9.7) Does Offset work correctly?	Problem solved	Go to Suspect Components

Section 5 - Primary FIPs: Image Quality**Contents**

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Image Quality FIPs

The FIP Flowchart or a Primary FIP should have directed you to this section.

Before entering the Image Quality FIPs:

1. Is the printer plugged into a recommended AC wall outlet?
2. Is the AC power provided at the wall outlet within recommended specifications?
3. Is the AC power cord connected to the printer.
4. Is the AC power cord in good condition; not frayed or broken?
5. Is the printer properly grounded through the AC wall outlet?
6. Is the printer located in an area where the temperature and humidity are moderate and stable?
7. Is the printer located in an area that is free of dust?
8. Is the printer located in an area away from water outlets, steamers, electric heaters, volatile gases, or open flames?
9. Is the printer shielded from the direct rays of the sun?
10. Does the printer have recommended space around all sides for proper ventilation?
11. Is the printer sitting on a level and stable surface?
12. Is recommended paper stock being used in the printer?
13. Does the customer use the printer as instructed in the User Manual?
14. Have consumables, such as the EP Cartridge, been replaced at the recommended interval?

The use of Diagnostic Test Print

Image Quality FIPs may ask you to run a specific Diagnostic Test Print subroutine to help isolate the cause of an image quality problem. For each subroutine the printer circuitry generates a test print that serves a single, diagnostic purpose. Follow the instructions in each FIP to evaluate the test print.

Running Test Print

Use this diagnostic routine to print a specific type of test pattern. The test patterns are built into the printer circuitry, so Test Print is an excellent tool for isolating and diagnosing print quality problems.

Defaults

Unless you specify otherwise, the printer generates a test print using the default values;

- Simplex mode
- Feed from Tray 1
- Print the current selected image area: normal or wide
- Print 4 dot grid test pattern
- Deliver to the Face Down Output Tray, with no sheet offset

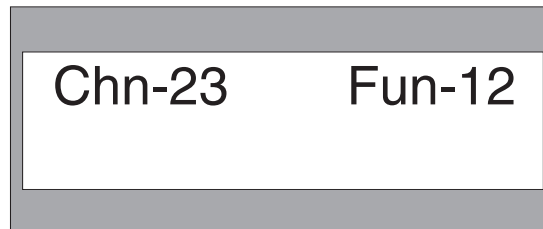
To generate a Test Print

1. Enter Diagnostic Mode

The printer is in Diagnostic Mode and the LCD displays Chn_00 Fun-00.

2. Select a specific Test Print pattern from the table in Section 8.
3. Use the Control Panel keys to enter the Chn and Fun number of the test you want to run.
4. Press Function Key [1] to generate a Test Print.

The printer generates test prints until you stop the routine.

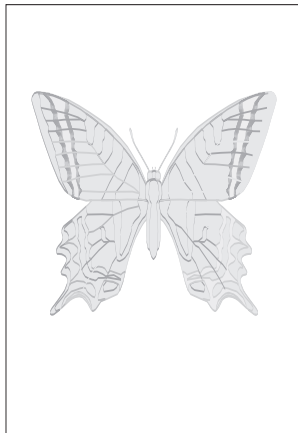


SER575X

To stop Test Print

Press Function Key [0].

5.1 Light (Undertoned) Prints



PROBLEM

The overall image density is too light. The image may also be unfused due to insufficient image density.

SUSPECT COMPONENTS

The following components are associated with this specific problem. One or more of these components may have failed partially or completely. If you cannot isolate the problem using this FIP, replace each component listed below, one at a time, until the problem disappears.

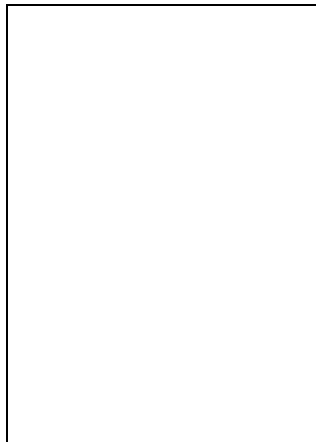
- **ROS Assembly (RRP 5.1)**
- **MCU PWB (RRP 9.7)**

SER576X

Step	Actions and Questions	Yes	No
1	PAPER INSPECTION Is the paper wrinkled or dimpled?	Load fresh, dry paper.	Go to step 2
2	EP CARTRIDGE REPLACEMENT Install a new EP Cartridge (CRU). Is the image density normal?	Problem solved	Go to step 3
3	IMAGE DEVELOPMENT INSPECTION 1. Remove the Rear Cover (RRP 1.3). 2. Generate a Grid Test Print and switch OFF printer power half-way through the print cycle. 3. Open the Left Upper Cover. 4. Open the Drum Shutter. 5. Hand rotate (counter clockwise) the Main Drive Motor to advance the Drum far enough so you can see the developed image area on the Drum <u>before</u> it reached Transfer. Is the image on the drum completely developed; with sharp, black, easily read areas?	Go to step 4	Replace the HVPS Assembly (RRP 9.4)
4	IMAGE TRANSFER INSPECTION 1. Carefully remove the Test Print generated in step 3. 2. Inspect the print. Was the toner image on the drum transferred completely to the paper. And are the grid lines black and unbroken?	Go to step 5	Replace the BTR Assembly (RRP 5.3). If the problem persists, replace the HVPS Assembly (RRP 9.4)

5.1 Light (Undertoned) Prints continued

Step	Actions and Questions	Yes	No
5	FUSER INSPECTION 1. Generate another Grid Test Print and switch OFF printer power when the print is halfway through the Fuser. 2. Open the Left Upper Cover. 3. Examine the paper areas before the image enters the Fuser and after the image exits the Fuser. Is the image normal before it enters the Fuser, but light when it exits the Fuser?	Replace the Fuser Assembly (RRP 6.1)	Go to Suspect Components

5.2 Blank Prints**PROBLEM**

The entire print is blank.

SUSPECT COMPONENTS

The following components are associated with this specific problem. One or more of these components may have failed partially or completely. If you cannot isolate the problem using this FIP, replace each component listed below, one at a time, until the problem disappears.

- **MCU PWB (RRP 9.7)**
- **CRU Connector and Contact Springs (PL7.2)**

Step	Actions and Questions	Yes	No
1	CONTROLLER OR HOST SOFTWARE ISOLATION Generate a Grid Test Print. Is the test print image normal?	Troubleshoot or replace the Video Controller (RRP 9.8) or reload the Host Driver Software	Go to step 2
2	EP CARTRIDGE REPLACEMENT Install a new EP Cartridge (RRP 5.2). Is there a normal image on the paper?	Problem solved	Go to step 3
3	IMAGE DEVELOPMENT INSPECTION 1. Remove the Rear Cover (RRP 1.3). 2. Generate a Grid Test Print and switch OFF printer power half-way through the print cycle. 3. Open the Left Upper Cover. 4. Open the Drum Shutter. 5. Hand rotate (counter clockwise) the Main Drive Motor to advance the Drum far enough so you can see the developed image area on the Drum <u>before</u> it reached Transfer. Is the image on the drum completely developed; with sharp, black, easily read areas?	Go to step 4	Replace the HVPS Assembly (RRP 9.4)

5.2 Blank Prints continued

Step	Actions and Questions	Yes	No
4	IMAGE TRANSFER INSPECTION - Carefully remove the Test Print generated in step 3. - Inspect the print. Was the toner image on the drum transferred completely to the paper. And are the grid lines black and unbroken?	Suspect an intermittent problem. Replace the MCU PWB (RRP 9.7) and/or refer to the wiring diagrams Section 14 and check for a broken wire or loose connection between components in the Xerographic sections of the printer.	Replace the BTR Assembly (RRP 5.3). If the problem persists, replace the HVPS Assembly (RRP 9.4)

5.3 Black Prints



PROBLEM

The entire print is black.

SUSPECT COMPONENTS

The following components are associated with this specific problem. One or more of these components may have failed partially or completely. If you cannot isolate the problem using this FIP, replace each component listed below, one at a time, until the problem disappears.

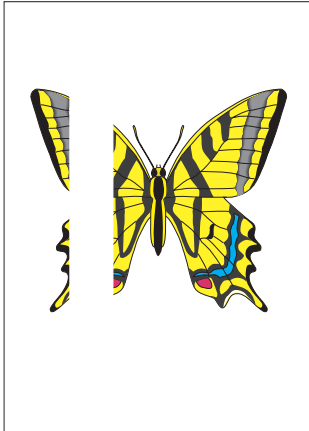
- LVPS Assembly (RRP 9.2)

Step	Actions and Questions	Yes	No
1	ROS WINDOW INSPECTION 1. Remove the EP Cartridge. 2. Inspect the ROS Window for a sheet of paper that may have lodged in front of it and could be blocking the laser beam from reaching the Drum. Is the ROS Window free of paper?	Go to step 2	Remove the paper
2	CONTROLLER OR HOST SOFTWARE ISOLATION Generate a Grid Test Print. Is the test print image normal?	Replace the Video Controller (RRP 9.8) or reload the Host Software	Go to step 3
3	EP CARTRIDGE REPLACEMENT Install a new EP Cartridge (RRP 5.2). Is there a normal image on the paper?	Problem solved	Go to step 4
4	IMAGE DEVELOPMENT INSPECTION 1. Remove the Rear Cover (RRP 1.3). 2. Generate a Grid Test Print and switch OFF printer power half-way through the print cycle. 3. Open the Left Upper Cover. 4. Open the Drum Shutter. 5. Hand rotate (counter clockwise) the Main Drive Motor to advance the Drum far enough so you can see the developed image area on the Drum <u>before</u> it reached Transfer. Is the image on the drum completely developed; with sharp, black, easily read areas and clear, white areas?	Replace the BTR Assembly (RRP 5.3)	Go to step 5

5.3 Black Prints continued

Step	Actions and Questions	Yes	No
5	ESS MOTHER PWB REPLACEMENT 1. Replace the ESS Mother PWB (RRP 9.10) 2. Generate a Grid Test Print. Is the printed Test Pattern normal?	Problem solved	Go to step 6
6	MCU PWB REPLACEMENT 1. Replace the MCU PWB (RRP 9.7) 2. Generate a Grid Test Print. Is the printed Test Pattern normal?	Problem solved	Go to step 7
7	ROS REPLACEMENT 1. Replace the ROS Assembly (RRP 5.1) 2. Generate a Grid Test Print. Is the printed Test Pattern normal?	Problem solved	Refer to the wiring diagrams Section 14 and check for a broken wire or loose connection between components in the Xerographic sections of the printer.

5.4 Vertical Band Deletions



PROBLEM

There are areas of the image that are extremely light or missing entirely. These missing areas form wide bands that run vertically along the page, in the direction of paper travel.

SUSPECT COMPONENTS

The following components are associated with this specific problem. One or more of these components may have failed partially or completely. If you cannot isolate the problem using this FIP, replace each component listed below, one at a time, until the problem disappears.

- no recommendations

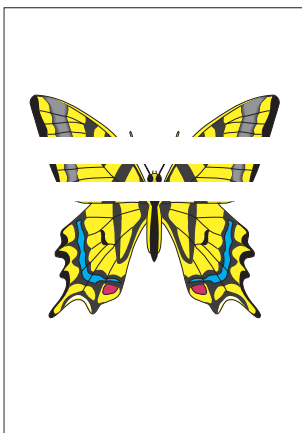
SER577X

Step	Actions and Questions	Yes	No
1	ROS WINDOW INSPECTION 1. Remove the EP Cartridge. 2. Inspect the ROS Window for a scrap of paper or other contamination that may have lodged in front of it and could be blocking part of the laser beam from reach the Drum. Is the ROS Window free of paper or other contamination?	Go to step 2	Remove the paper scrap or clean the ROS window.
2	PAPER INSPECTION Is the paper wrinkled or dimpled?	Load fresh, dry paper.	Go to step 3
3	EP CARTRIDGE REPLACEMENT Install a new EP Cartridge (CRU). Are the vertical band deletions gone?	Problem solved	Go to step 4
4	IMAGE TRANSFER INSPECTION 1. Remove the Rear Cover (RRP 1.3). 2. Generate a Solid Black Test Print and switch OFF printer power halfway through the print cycle. 3. Open the Left Upper Cover. 4. Open the Drum Shutter. 5. Hand rotate (counter clockwise) the Main Drive Motor to advance the Drum far enough so you can see the developed image area on the Drum <u>before</u> it reached Transfer. Before Transfer was the toner image on the drum normal and without vertical band deletions?	Go to step 5	Replace the BTR Assembly (RRP 5.3)

5.4 Vertical Band Deletions continued

Step	Actions and Questions	Yes	No
5	FUSER INSPECTION 1. Generate another Solid Black Test Print and switch OFF printer power when the print is halfway through the Fuser. 2. Open the Left Upper Cover. 3. Examine the paper areas before the image enters the Fuser and after the image exits the Fuser. Is the image on the paper normal before it enters the Fuser, but there are vertical band deletions visible when it exits the Fuser?	Replace the Fuser Assembly (RRP 6.1)	Go to Suspect Components

5.5 Horizontal Band Deletions



PROBLEM

There are areas of the image that are extremely light or missing entirely. These missing areas form wide bands that run horizontally across the page, parallel with the direction of paper travel.

SUSPECT COMPONENTS

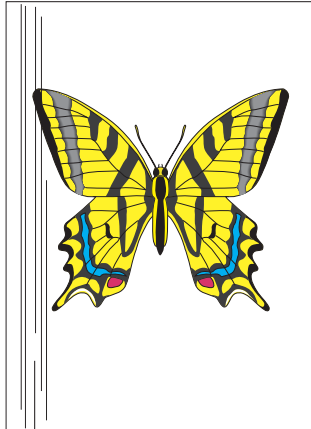
The following components are associated with this specific problem. One or more of these components may have failed partially or completely. If you cannot isolate the problem using this FIP, replace each component listed below, one at a time, until the problem disappears.

- **CRU Connector and Contact Springs (PL7.2)**
- **MCU PWB (RRP 9.7)**
- **Fuser Assembly (RRP 6.1)**

SER578X

Step	Actions and Questions	Yes	No
1	PAPER INSPECTION Is the paper wrinkled or dimpled?	Replace with fresh, dry paper	Go to step 2
2	EP CARTRIDGE REPLACEMENT Install a new EP Cartridge (RRP 5.2). Are the horizontal band deletions gone?	Problem solved	Go to step 3
3	IMAGE TRANSFER INSPECTION 1. Remove the Rear Cover (RRP 1.3). 2. Generate a Solid Black Test Print and switch OFF printer power halfway through the print cycle. 3. Open the Left Upper Cover. 4. Open the Drum Shutter. 5. Hand rotate (counter clockwise) the Main Drive Motor to advance the Drum far enough so you can see the developed image area on the Drum <u>before</u> it reached Transfer. Before Transfer was the toner image on the drum normal and without horizontal band deletions, but there are deletions on the paper after Transfer?	Go to step 4	Replace the BTR Assembly (RRP 5.3), then go to step 4
4	HVPS CHECK Generate a Solid Black Test Print. Is the Test Print normal, with no horizontal band deletions?	Problem solved	Replace the HVPS Assembly (RRP 9.4)

5.6 Vertical Streaks



PROBLEM

There are black lines running vertically along the page.

SUSPECT COMPONENTS

The following components are associated with this specific problem. One or more of these components may have failed partially or completely. If you cannot isolate the problem using this FIP, replace each component listed below, one at a time, until the problem disappears.

- no recommendations

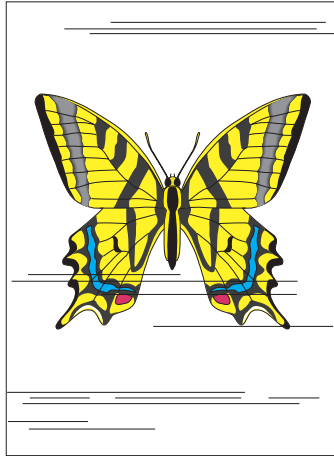
SER579X

Step	Actions and Questions	Yes	No
1	PAPER PATH INSPECTION Inspect the paper path, between feed and exit, for contamination or obstructions. Is the paper path free of contamination or obstructions?	Go to step 2	Remove contamination and obstructions from the paper path.
2	ROS WINDOW INSPECTION 1. Remove the EP Cartridge. 2. Inspect the ROS Window for contamination that could be blocking part of the laser beam from reach the Drum. Is the ROS Window clean?	Go to step 3	Clean ROS window
3	EP CARTRIDGE REPLACEMENT Install a new EP Cartridge (CRU). Are the vertical streaks gone?	Problem solved	Go to step 4
4	IMAGE TRANSFER INSPECTION 1. Remove the Rear Cover (RRP 1.3). 2. Generate a Grid Test Print and switch OFF printer power half-way through the print cycle. 3. Open the Left Upper Cover. 4. Open the Drum Shutter. 5. Hand rotate (counter clockwise) the Main Drive Motor to advance the Drum far enough so you can see the developed image area on the Drum <u>before</u> it reached Transfer. Before Transfer was the toner image on the drum normal and without vertical streaks, but there are vertical streaks on the paper after Transfer?	Go to step 5	Replace the BTR Assembly (RRP 5.3)

5.6 Vertical Streaks continued

Step	Actions and Questions	Yes	No
5	FUSER INSPECTION 1. Generate another Grid Test Print and switch OFF printer power when the print is halfway through the Fuser. 2. Open the Left Upper Cover. 3. Examine the paper areas before the image enters the Fuser and after the image exits the Fuser. Is the image on the paper normal before it enters the Fuser, but there are vertical streaks visible when it exits the Fuser?	Replace the Fuser Assembly (RRP 6.1)	Replace the ROS Assembly (RRP 5.1)

5.7 Horizontal Streaks



SER580X

PROBLEM

There are black lines running horizontally across the page.

SUSPECT COMPONENTS

The following components are associated with this specific problem. One or more of these components may have failed partially or completely. If you cannot isolate the problem using this FIP, replace each component listed below, one at a time, until the problem disappears.

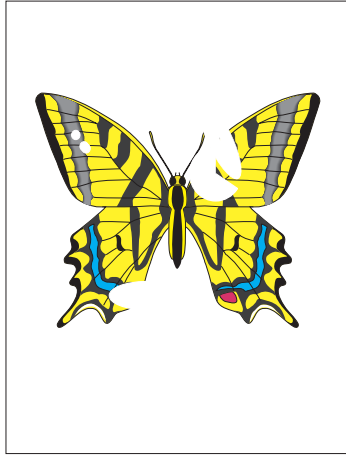
- **MCU PWB (RRP 9.7)**
- **CRU Connector and Contact Springs (PL7.2)**

Step	Actions and Questions	Yes	No
1	EP CARTRIDGE REPLACEMENT Install a new EP Cartridge (RRP 5.2). Are the horizontal streaks gone?	Problem solved	Go to step 2
2	IMAGE DEVELOPMENT INSPECTION 1. Remove the Rear Cover (RRP 1.3). 2. Generate a Blank Test Print and switch OFF printer power halfway through the print cycle. 3. Open the Left Upper Cover. 4. Open the Drum Shutter. 5. Hand rotate (counter clockwise) the Main Drive Motor to advance the Drum far enough so you can see the developed image area on the Drum <u>before</u> it reached Transfer. Is the image on the drum completely white; without any horizontal streaks visible?	Go to step 3	Replace the ROS Assembly (RRP 5.1)
3	IMAGE TRANSFER INSPECTION Inspect the Blank Test Print you generated in step 2. Are horizontal streaks visible on the paper after Transfer?	Replace the BTR Assembly (RRP 5.3)	Go to step 4

5.7 Horizontal Streaks continued

Step	Actions and Questions	Yes	No
4	FUSER INSPECTION 1. Generate another Blank Test Print and switch OFF printer power when the print is halfway through the Fuser. 2. Open the Left Upper Cover. 3. Examine the paper areas before the image enters the Fuser and after the image exits the Fuser. Is the image on the paper normal before it enters the Fuser, but there are horizontal streaks visible when it exits the Fuser?	Replace the Fuser Assembly (RRP 6.1)	Go to step 5
5	ESS MOTHER PWB REPLACEMENT Replace the ESS Mother PWB (RRP 9.10). Are the horizontal streaks gone?	Problem solved	Go to step 6
6	HVPS REPLACEMENT Replace the HVPS Assembly (RRP 9.4). Are the horizontal streaks gone?	Problem solved	Go to Suspect Components

5.8 Spot Deletions



PROBLEM

There are areas of the image that are extremely light or missing entirely. These missing areas form spots that are localized to small areas of the page.

SUSPECT COMPONENTS

The following components are associated with this specific problem. One or more of these components may have failed partially or completely. If you cannot isolate the problem using this FIP, replace each component listed below, one at a time, until the problem disappears.

- no recommendations

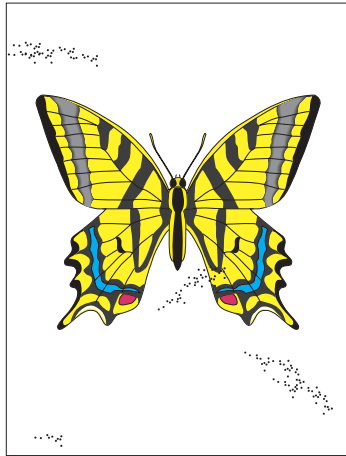
SER581X

Step	Actions and Questions	Yes	No
1	PAPER INSPECTION Is the paper wrinkled or dimpled?	Replace with fresh, dry paper	Go to step 2
2	EP CARTRIDGE REPLACEMENT Install a new EP Cartridge (RRP 5.2). Are the spot deletions gone?	Problem solved	Go to step 3
3	IMAGE TRANSFER INSPECTION 1. Remove the Rear Cover (RRP 1.3). 2. Generate a Black Test Print and switch OFF printer power halfway through the print cycle. 3. Open the Left Upper Cover. 4. Open the Drum Shutter. 5. Hand rotate (counter clockwise) the Main Drive Motor to advance the Drum far enough so you can see the developed image area on the Drum <u>before</u> it reached Transfer. Before Transfer was the toner image on the drum normal and without spot deletions, but there are spot deletions on the paper after Transfer?	Replace the BTR Assembly (RRP 5.3)	Go to step 4

5.8 Spot Deletions continued

Step	Actions and Questions	Yes	No
4	FUSER INSPECTION 1. Generate another Black Test Print and switch OFF printer power when the print is halfway through the Fuser. 2. Open the Left Upper Cover. 3. Examine the paper areas before the image enters the Fuser and after the image exits the Fuser. Is the image on the paper normal before it enters the Fuser, but there are spot deletions visible when it exits the Fuser?	Replace the Fuser Assembly (RRP 6.1)	Replace the paper with fresh, dry paper. If problem continues, thoroughly clean the inside of the printer.

5.9 Spots



SER582X

PROBLEM

There are spots of toner randomly scattered across the page.

SUSPECT COMPONENTS

The following components are associated with this specific problem. One or more of these components may have failed partially or completely. If you cannot isolate the problem using this FIP, replace each component listed below, one at a time, until the problem disappears.

- no recommendations

Step	Actions and Questions	Yes	No
1	EP CARTRIDGE INSPECTION 1. Remove the EP Cartridge. 2. Inspect the outside of the Cartridge. 3. Open the Shutter and inspect the Drum. Is the EP Cartridge dirty and is it leaking toner?	Replace the EP Cartridge	Go to step 2
2	INTERIOR INSPECTION AND CLEANING 1. With the EP Cartridge removed, inspect the interior of the printer for toner contamination. 2. Vacuum or wipe all interior surfaces, including Feed Rolls. 3. Generate 30 Blank Test Prints to clean out the printer. 4. Examine the last print out. Are the spots gone?	Problem solved	Go to step 3
3	IMAGE TRANSFER INSPECTION 1. Remove the Rear Cover (RRP 1.3). 2. Generate a Blank Test Print and switch OFF printer power halfway through the print cycle. 3. Open the Left Upper Cover. 4. Open the Drum Shutter. 5. Hand rotate (counter clockwise) the Main Drive Motor to advance the Drum far enough so you can see the developed image area on the Drum <u>before</u> it reached Transfer. Is the paper clean before Transfer, but there are spots on the paper after Transfer?	Replace the BTR Assembly (RRP 5.3)	Go to step 4

5.9 Spots continued

Step	Actions and Questions	Yes	No
4	FUSER INSPECTION 1. Generate another Blank Test Print and switch OFF printer power when the print is halfway through the Fuser. 2. Open the Left Upper Cover. 3. Examine the paper areas before the image enters the Fuser and after the image exits the Fuser. Is paper clean before it enters the Fuser, but there are spots on the paper when it exits the Fuser?	Replace the Fuser Assembly (RRP 6.1)	Clean or replace the Offset/Exit Assembly (RRP 7.1)

5.10 Residual Image or Ghosting



PROBLEM

There are faint, ghost images appearing randomly on the page. The images may be either from a previous page or from the page currently being printed.

SUSPECT COMPONENTS

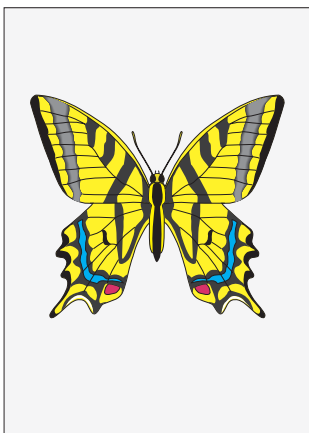
The following components are associated with this specific problem. One or more of these components may have failed partially or completely. If you cannot isolate the problem using this FIP, replace each component listed below, one at a time, until the problem disappears.

- **MCU PWB (RRP 9.7)**

SER583X

Step	Actions and Questions	Yes	No
1	CUSTOMER USAGE INSPECTION Inspect the residual images. Was the customer printing numerous copies of the same image?	Go to step 2	Go to step 3
2	Generate a print run of 30 pages of varying images. Do residual images still appear?	Go to step 3	Problem solved. Avoid printing numerous copies of the same image.
3	EP CARTRIDGE REPLACEMENT Install a new EP Cartridge (RRP 5.2). Are the ghost images gone?	Problem solved	Go to step 4
4	FUSER INSPECTION 1. Generate ten Grid Test Prints and switch OFF printer power when the last print is halfway through the Fuser. 2. Carefully remove the EP Cartridge and inspect the toner image on the print before it enters the Fuser and immediately after it exits the Fuser. Is the image on the paper normal before it enters the Fuser, but there are ghost images on the paper when it exits the Fuser?	Replace the Fuser Assembly (RRP 6.1)	Replace the BTR Assembly (RRP 5.3)

5.11 Background



PROBLEM

There is toner contamination on all or part of the page. The contamination appears as a very light gray dusting.

SUSPECT COMPONENTS

The following components are associated with this specific problem. One or more of these components may have failed partially or completely. If you cannot isolate the problem using this FIP, replace each component listed below, one at a time, until the problem disappears.

- **HVPS Assembly (RRP 9.4)**
- **MCU PWB (RRP 9.7)**
- **ESS Mother PWB (RRP 9.10)**

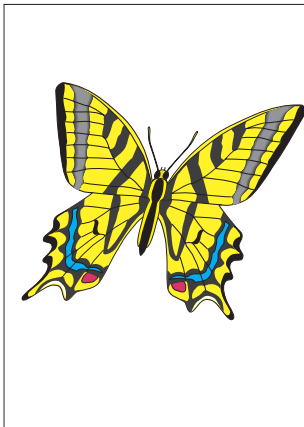
SER584X

Step	Actions and Questions	Yes	No
1	EP CARTRIDGE REPLACEMENT Install a new EP Cartridge (RRP 5.2). Is the background gone?	Problem solved	Go to step 2
2	IMAGE DEVELOPMENT INSPECTION 1. Remove the Rear Cover (RRP 1.3). 2. Generate a Blank Test Print and switch OFF printer power halfway through the print cycle. 3. Open the Left Upper Cover. 4. Open the Drum Shutter. 5. Hand rotate (counter clockwise) the Main Drive Motor to advance the Drum far enough so you can see the developed image area on the Drum <u>before</u> it reached Transfer. Is the image on the drum completely clean; without any noticeable background toner?	Go to step 3	Replace the ROS Assembly (RRP 5.1)

5.11 Background continued

Step	Actions and Questions	Yes	No
3	IMAGE TRANSFER INSPECTION 1. Remove the Rear Cover (RRP 1.3). 2. Generate a Blank Test Print and switch OFF printer power halfway through the print cycle. 3. Open the Left Upper Cover. 4. Open the Drum Shutter. 5. Hand rotate (counter clockwise) the Main Drive Motor to advance the Drum far enough so you can see the developed image area on the Drum <u>before</u> it reached Transfer. Before Transfer was the drum clean and without noticeable background toner, but there was background visible on the paper after Transfer?	Replace the BTR Assembly (RRP 5.3)	Go to step 4
4	FUSER INSPECTION 1. Generate another Blank Test Print and switch OFF printer power when the print is halfway through the Fuser. 2. Open the Left Upper Cover. 3. Examine the paper areas before the image enters the Fuser and after the image exits the Fuser. Is paper clean before it enters the Fuser, but there is background on the paper when it exits the Fuser?	Replace the Fuser Assembly (RRP 6.1)	Go to Suspect Components

5.12 Skewed Image



PROBLEM

The printed image is not parallel with the sides of the page.

SUSPECT COMPONENTS

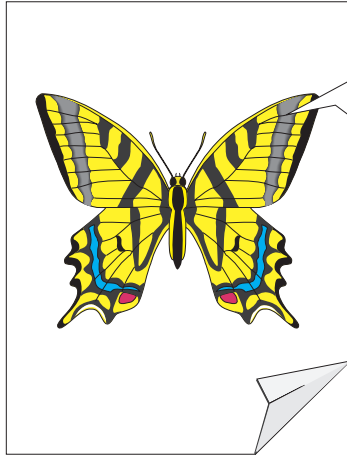
The following components are associated with this specific problem. One or more of these components may have failed partially or completely. If you cannot isolate the problem using this FIP, replace each component listed below, one at a time, until the problem disappears.

- ROS Assembly (RRP 5.1)

SER585X

Step	Actions and Questions	Yes	No
1	PAPER FEED INSPECTION Are the paper cassettes installed correctly, and is the paper correctly loaded into each cassette?	Go to step 2	Reload the paper and reinstall the cassettes.
2	PAPER PATH INSPECTION Inspect the paper path, between the feed tray and the exit tray, for contamination or obstructions. Is the paper path free of obstructions?	Go to step 3	Remove obstructions or contamination from the paper path.
3	FEED, NUDGER, AND RETARD ROLL REPLACEMENT Replace the Feed Roll, Nudger Roll, and Retard Roll (RRP 2.3 or RRP 3.6, RRP 3.7, and RRP 3.9 for the MSI) for the Feeder having the skew problem. Is the image still skewed?	Go to step 4	Problem solved
4	REGISTRATION ROLL REPLACEMENT Replace the Registration Roll (RRP 4.5). Is the image still skewed?	Replace the EP Cartridge	Problem solved

5.13 Damaged Prints



PROBLEM

The printed page comes out of the printer either wrinkled, creased, or torn.

SUSPECT COMPONENTS

The following components are associated with this specific problem. One or more of these components may have failed partially or completely. If you cannot isolate the problem using this FIP, replace each component listed below, one at a time, until the problem disappears.

- no recommendations

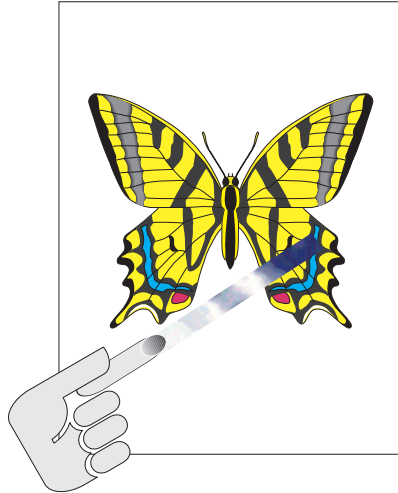
SER586X

Step	Actions and Questions	Yes	No
1	PAPER INSPECTION Inspect the paper that is loaded in the Feeder that is having the damage problem Is the paper in the Feeder already wrinkled, creased, or torn?	Replace with fresh, dry paper	Go to step 2
2	PAPER PATH INSPECTION Inspect the paper path, between the feed tray and the exit tray, for paper scrap, obstructions, or broken printer components. Is the paper path clear and there are no broken components?	Go to step 3	Clear the paper path or replace the broken component.
3	PAPER FEED INSPECTION 1. Run a Grid Test Print and switch OFF printer power halfway through the print cycle. 2. Open the Left Upper Cover. Is the paper fed crooked?	Go to FIP 5.12 Skewed Image	Go to step 4
4	PAPER PATH ROLLS INSPECTION Inspect all of the rolls along the paper path, between the feed tray and the exit tray, for contamination, wear, or damage. Are the paper path rolls free of contamination, wear, or damage?	Go to step 5	Replace any damaged or worn rolls.
5	EP CARTRIDGE INSPECTION 1. Run a Grid Test Print and switch OFF printer power before the sheet of paper reaches the Fuser. 2. Open the Left Upper Cover. Is the paper damaged before it reaches the Fuser?	Replace the EP Cartridge (RRP 5.2) and/or the BTR Assembly (RRP 5.3)	Go to step 6

5.13 Damaged Print continued

Step	Actions and Questions	Yes	No
6	FUSER INSPECTION 1. Run another Grid Test Print and switch OFF printer power when the print is halfway through the Fuser. 2. Open the Left Upper Cover. 3. Examine the paper areas before the image enters the Fuser and after the image exits the Fuser. Is paper undamaged before it enters the Fuser, but there is damage visible as it exits the Fuser?	Replace the Fuser Assembly (RRP 6.1)	Clean or replace the Offset/Exit Assembly (RRP 7.1)

5.14 Unfused Image or Image Easily Rubbed Off



PROBLEM

The printed image is not fully fused to the paper. The image easily rubs off.

SUSPECT COMPONENTS

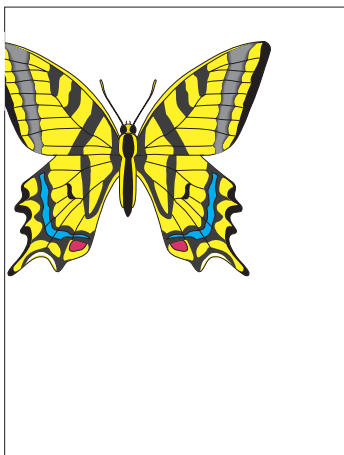
The following components are associated with this specific problem. One or more of these components may have failed partially or completely. If you cannot isolate the problem using this FIP, replace each component listed below, one at a time, until the problem disappears.

- MCU PWB (RRP 9.7)
- AC Drive PWB

SER587X

Step	Actions and Questions	Yes	No
1	PAPER INSPECTION Is the paper wrinkled or dimpled?	Replace with fresh, dry paper	Go to step 2
2	IMAGE DENSITY INSPECTION Run a Black Test Print. Is the Test Print a rich, dark gray?	Replace the Fuser Assembly (RRP 6.1)	Go to FIP 5.1 Light (Under-toned) Prints

5.15 Image not Registered Correctly



PROBLEM

The printed image is not centered on the page or is bleeding off of the page.

SUSPECT COMPONENTS

The following components are associated with this specific problem. One or more of these components may have failed partially or completely. If you cannot isolate the problem using this FIP, replace each component listed below, one at a time, until the problem disappears.

- ROS Assembly (RRP 5.1)
- ESS Mother PWB (RRP 9.10)

SER588X

Step	Actions and Questions	Yes	No
1	IMAGE INSPECTION Generate a Grid Test Print. Is the Test Print registered correctly?	Troubleshoot the Host Application Software settings	Go to step 2
2	IMAGE INSPECTION Generate ten Grid Test Prints. Are all of the Test Prints out of registration by the same amount, with no variation in offset?	Go to Section 9 and reset registration, then return to step 3	Go to FIP 5.12 Skewed Image
3	IMAGE INSPECTION AFTER REGISTRATION ADJUSTMENT 1. Switch OFF printer power. 2. Wait one minute, then switch ON printer power. 3. Generate a Grid Test Print. Is the Test Prints still registered incorrectly?	Replace the MCU PWB (RRP 97)	Problem solved

Section 6 - Secondary FIPs

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6.1 Electrical Noise 6-3

Secondary FIPs

The FIP Flowchart or a Primary FIP should have directed you to this section.

Before entering the Secondary FIPs:

1. Is the printer plugged into a recommended AC wall outlet?
2. Is the AC power provided at the wall outlet within recommended specifications?
3. Is the AC power cord connected to the printer.
4. Is the AC power cord in good condition; not frayed or broken?
5. Is the printer properly grounded through the AC wall outlet?
6. Is the printer located in an area where the temperature and humidity are moderate and stable?
7. Is the printer located in an area that is free of dust?
8. Is the printer located in an area away from water outlets, steamers, electric heaters, volatile gases, or open flames?
9. Is the printer shielded from the direct rays of the sun?
10. Does the printer have recommended space around all sides for proper ventilation?
11. Is the printer sitting on a level and stable surface?
12. Is recommended paper stock being used in the printer?
13. Does the customer use the printer as instructed in the User Manual?
14. Are consumables, such as the EP Cartridge, replaced at recommended intervals?

6.1 Electrical Noise

Step	Actions and Questions	Yes	No
	SUSPECT COMPONENTS The following components are associated with this specific problem. One or more of these components may have failed partially or completely. If you cannot isolate the problem using this FIP, replace each component listed below, one at a time, until the problem disappears. • Lift Up Motors • Feed Clutches • ROS Assembly (RRP 5.1) • Offset Unit (RRP 7.1) • Video Controller (RRP 9.8)		
1	EXTERNAL NOISE 1. Check if there is other electrical equipment, such as electrical generators, radio transmitters, or devices using electrical motors, within ten feet of the printer. 2. Shut off the other electrical equipment or relocate the printer at least twenty feet away from the other devices. Is the Electrical Noise problem still present?	Go to step 2	Permanently relocate either the printer or the problem device.
2	OPTION ISOLATION If the printer has options installed, such as Duplex Unit or the High Capacity Feeder, remove each option one at a time, and see how the printer operations without that option installed. Does the Electrical Noise problem go away when you remove a specific option?	Go to step 3	Go the Technical Manual for the problem option and troubleshoot for arcing solenoids, motor, or faulty PWBs or wiring.
3	AC GROUND Check the AC wall outlet. Is the AC wall outlet correctly wired and grounded?	Go to step 4	Repair the AC wall outlet
	Steps 4 through 11 attempt to find a faulty printer component that may be generating electrical noise. If replacing a component does not solve the problem, reinstall the old component before moving on to the next step.		
4	EP CARTRIDGE REPLACEMENT Replace the EP Cartridge Is the Electrical Noise problem still present?	Go to step 5	Problem solved
5	MAIN SWITCH REPLACEMENT Replace the Main Power Switch (RRP 9.1) Is the Electrical Noise problem still present?	Go to step 6	Problem solved

6.1 Electrical Noise continued

Step	Actions and Questions	Yes	No
6	HVPS REPLACEMENT Replace the HVPS Assembly (RRP 9.4) Is the Electrical Noise problem still present?	Go to step 7	Problem solved
7	AC DRIVER REPLACEMENT Replace the AC Driver PWB (RRP 9.3) Is the Electrical Noise problem still present?	Go to step 8	Problem solved
8	LVPS ASSEMBLY REPLACEMENT Replace the LVPS Assembly (RRP 9.2) Is the Electrical Noise problem still present?	Go to step 9	Problem solved
9	FUSER ASSEMBLY REPLACEMENT Replace the Fuser Assembly (RRP 6.1) Is the Electrical Noise problem still present?	Go to step 10	Problem solved.
10	MCU PWB REPLACEMENT Replace the MCU PWB (RRP 9.7) Is the Electrical Noise problem still present?	Go to step 11	Problem solved.
11	MAIN DRIVE ASSEMBLY REPLACEMENT Replace the Main Drive Assembly (RRP 8.1) Is the Electrical Noise problem still present?	Go to Suspect Components	Problem solved.

Section 7 - Diagnostic Mode and the Control Panel

Contents

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To enter Diagnostic Mode 7-3

To exit Diagnostic Mode 7-3

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What is Diagnostic Mode?

Diagnostics are built into the MCU PWB. You use the printer Control Panel to access Diagnostic Mode so you can run the various diagnostic routines that are available. Diagnostics allow you to test various components and sub-systems within the printer.

You can use Diagnostic Mode to:

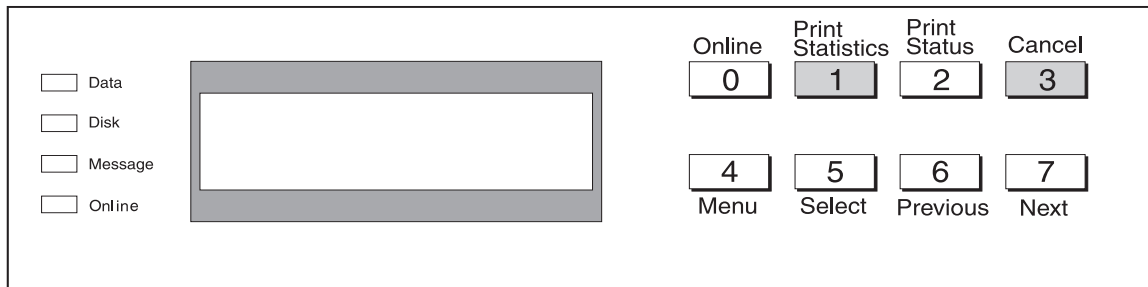
- 1 Check the operation of switches and sensors
- 1 Test various motors, solenoids, and clutches
- 1 Generate test patterns to check printer operation and xerographic functions
- 1 View and change printer settings

To connect the Control Panel so you can access Diagnostic Mode

1. Remove the Control Panel from the Top Cover.
2. Disconnect the Control Panel from P421 on the ESS Mother PWB.
3. Connect the Control Panel to P410 on the MCU PWB.
4. Follow the steps listed in *To enter Diagnostics* on the next page.

To enter Diagnostic Mode

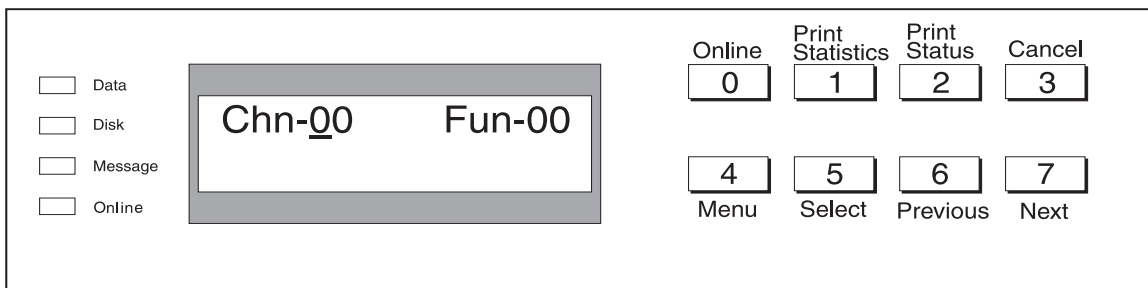
1. Press and hold [1] and [3] while you switch on printer main power.



SER775X

2. When the Control Panel LCD displays *Chn-00 Fun-00*, as shown below, release [1] and [3].

The printer is now in Diagnostic Mode.



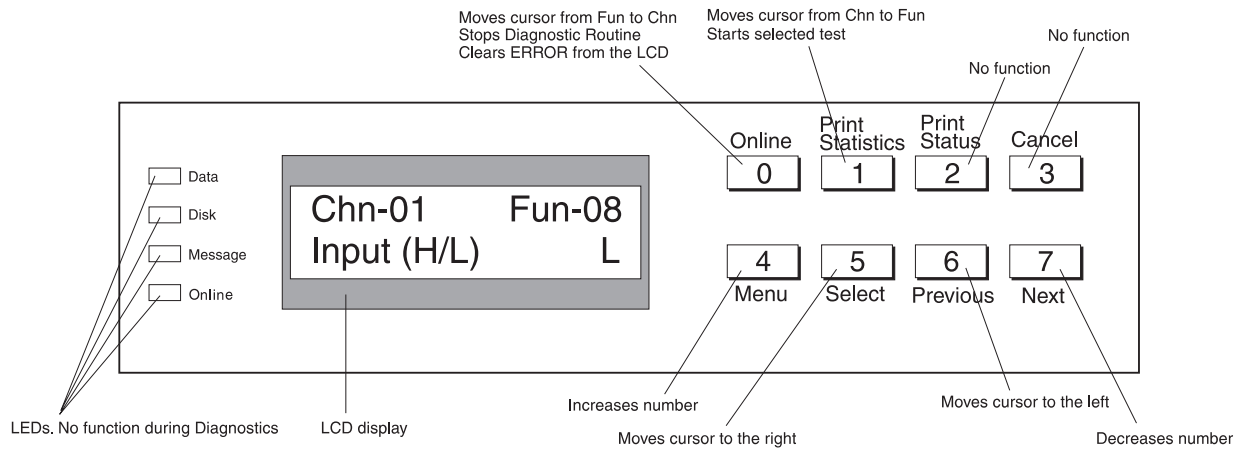
SER776X

To exit Diagnostic Mode

1. If a Diagnostic Output subroutine is currently running, press [0] to stop the subroutine.
2. Switch off printer main power.
3. If you are finished with Diagnostics, disconnect the Control Panel from P410 on the MCU PWB.
4. Reconnect the Control Panel to P421 on the ESS Mother PWB.
5. Reinstall the Control Panel into the Top Cover.

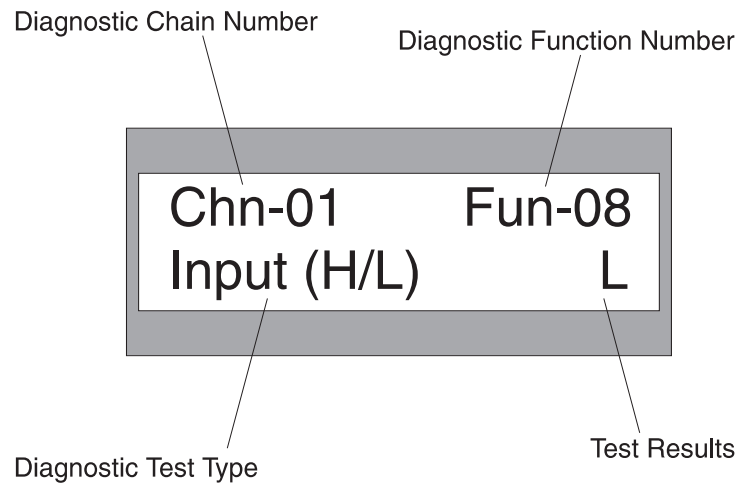
The Control Panel Layout

The illustration below shows the layout and functions of the Control Panel



SER777X

The illustration below shows the meaning of the information displayed in the Control Panel LCD.



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The functions of the Control Panel buttons while in Diagnostic Mode

Press [4] to increase (0~9) the number that is underlined by the cursor.

☐ Data
☐ Disk
☐ Message
☐ Online

Chn-10 Fun-00

Online
0

Print Statistics
1

Print Status
2

Cancel
3

4
Menu

5
Select

6
Previous

7
Next

SER779X

Press [7] to decrease (9~0) the number that is underlined by the cursor.

☐ Data
☐ Disk
☐ Message
☐ Online

Chn-90 Fun-00

Online
0

Print Statistics
1

Print Status
2

Cancel
3

4
Menu

5
Select

6
Previous

7
Next

SER780X

Press [5] to shift the cursor one digit to the right.

☐ Data
☐ Disk
☐ Message
☐ Online

Chn-00 Fun-00

Online
0

Print Statistics
1

Print Status
2

Cancel
3

4
Menu

5
Select

6
Previous

7
Next

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The functions of the Control Panel buttons while in Diagnostic Mode continued

Press [6] to shift the cursor one digit to the left.

Control panel display showing Chn-00 and Fun-00. The cursor is positioned under the first 0 of Fun-00. The display includes a list of options on the left: Data, Disk, Message, and Online. The right side shows a grid of buttons: Online (0), Print Statistics (1), Print Status (2), Cancel (3), Menu (4), Select (5), Previous (6), and Next (7). The Previous button (6) is highlighted.

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Press [1] to switch the cursor between Chn and Fun.

Control panel display showing Chn-00 and Fun-00. The cursor is positioned under the first 0 of Chn-00. The display includes a list of options on the left: Data, Disk, Message, and Online. The right side shows a grid of buttons: Online (0), Print Statistics (1), Print Status (2), Cancel (3), Menu (4), Select (5), Previous (6), and Next (7). The Print Statistics button (1) is highlighted.

SER783X

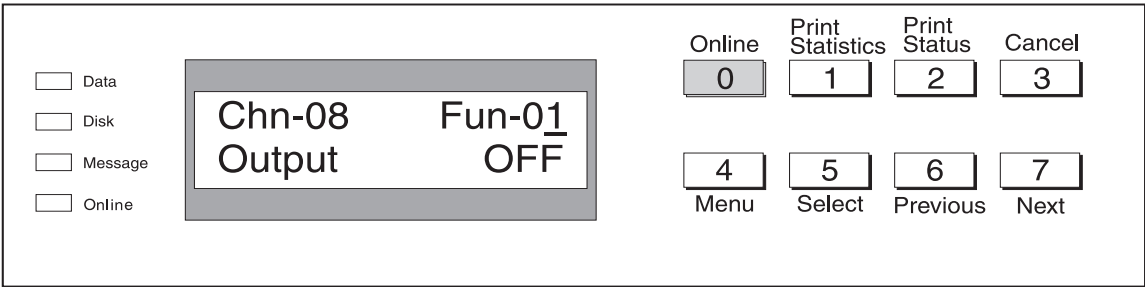
After you have selected a Chn and Fun test, press [1] to start the test.

Control panel display showing Chn-08 Output and Fun-01 ON. The cursor is positioned under the 1 of Fun-01. The display includes a list of options on the left: Data, Disk, Message, and Online. The right side shows a grid of buttons: Online (0), Print Statistics (1), Print Status (2), Cancel (3), Menu (4), Select (5), Previous (6), and Next (7). The Print Statistics button (1) is highlighted.

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The functions of the Control Panel buttons while in Diagnostic Mode continued

Press [0] to stop the test, move the cursor between Fun and Chn, or clear a Diagnostic ERROR.



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Section 8 - Running Printer Diagnostics

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Run only those Diagnostic routines that are listed in this manual. Do not enter random numbers when in Diagnostic Mode. Diagnostics provide very little feedback to the Control Panel LCD as to which Diagnostic Routine you are running. By entering random numbers you could unknowingly alter important printer operation parameters and seriously effect normal printer operation.

Diagnostic Mode Routines and Subroutines

While in Diagnostic Mode you have access to a variety of test functions:

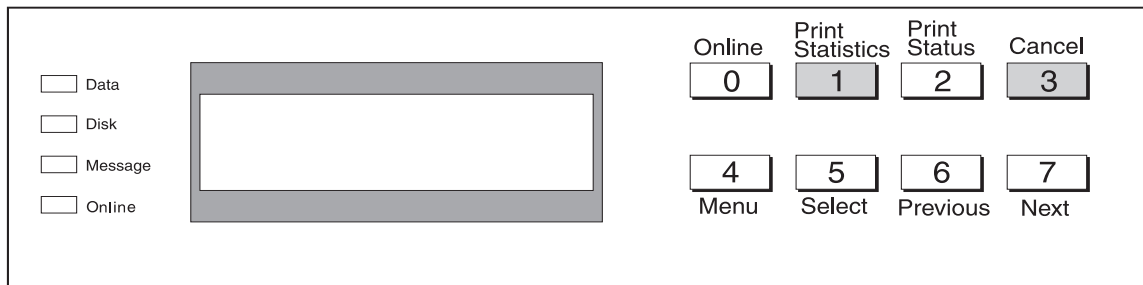
- 1 **Input Test (H/L)**
Check the signal level (on/off) coming from a specific sensor.
- 1 **Input Test (A/D)**
Check the value of a signal coming from a specific sensor.
- 1 **IN n+1 Test**
Check the operation of the control panel keys and as an alternate way to check sensor function.
- 1 **Output Test**
Switch on and off a specific component, such as a motor or solenoid.
- 1 **Paper Feeder and CRU usage**
Display the contents of component usage logs.
- 1 **Test Print**
Generate a built-in Test Pattern, and sent it to a specific output destination.

Before running printer diagnostics

Connect the printer Control Panel to the MCU PWB (Refer to *Section 7-Diagnostic Mode and the Control Panel* on how to connect and use the Control Panel to run Diagnostics).

To enter Diagnostic Mode

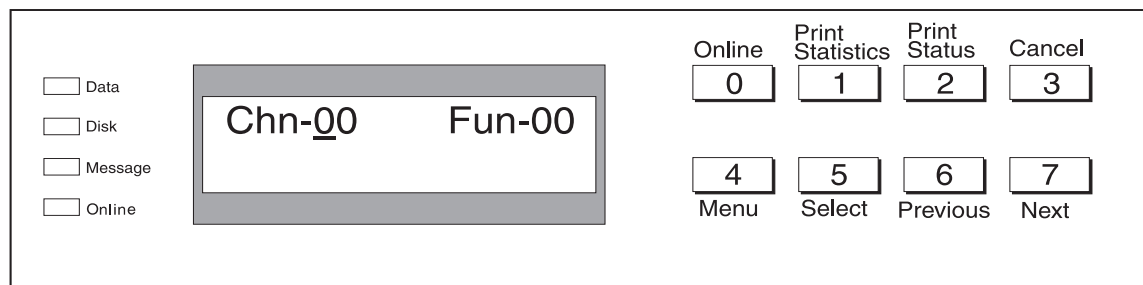
1. Press and hold [1] and [3] while you switch on printer main power.



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2. When the Control Panel LCD displays *Chn-00 Fun-00*, as shown below, release [1] and [3].

The printer is now in Diagnostic Mode.



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Running an Output Test

Use this Diagnostic routine to actuate printer components such as motors, solenoids, and clutches. You can run multiple output tests simultaneously.

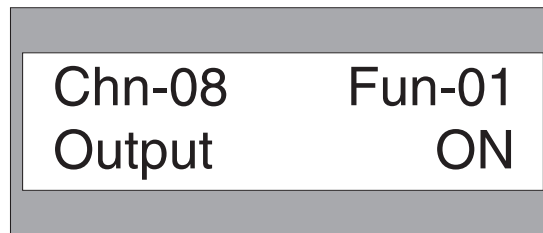
1. Enter Diagnostic Mode

The printer is in Diagnostic Mode and the LCD displays Chn-00 Fun-00.

2. Select an Output Test from the table on the next page.
3. Use the Control Panel keys to enter the Chain number of the test.
4. Press Function Key [1] to switch the cursor from Chn and Fun.
5. Use the Control Panel keys to enter the Fun number of the test.
6. Press Function Key [1] to start the Output test.

The LCD displays the *Chn* - *Fun* number of the test, *Output*, and *ON* to indicate the test has started.

The output component under test should click, switch on, or start running.



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7. Press Function Key [0] to stop the Output Test.
8. Press Function Key [1] to restart the test if necessary.

To change to another Output Test

1. Press [0] to stop the current Output test.
2. Press [0] to move the cursor to Chn.
3. Select a new Output Test from the table on the next page.
4. Use the Control Panel keys to enter the Chain number of the new test.
5. Press Function Key [1] to switch the cursor from Chn and Fun.
6. Use the Control Panel arrow buttons to enter the Fun number of the new test.
7. Press Function Key [1] to start the new Output test.

The LCD displays the *Chn* - *Fun* number of the new test, *Output*, and *ON* to indicate the test has started.

The output component under test should click, switch on, or start running.

Output Test table

Chain (Routine)	Function (Subroutine)	Switches on the...	Comments
2	2	Control Panel LEDs	Works only if the Control Panel is connected to the MCU PWB
3	10	System Buzzer	Works only if the Control Panel is connected to the MCU PWB
4	1	Main Motor	
4	2	Fuser Fan Motor from mid to high speed	
4	3	LVPS Fan Motor from mid to high speed	
6	75	ROS Motor at 600 dpi speed	
6	77	ROS Motor to standby speed	
7	18	Tray 1 Lift Motor	When Tray 1 Level Sensor is down (L), the Motor runs for 2 seconds, then switches off. When Tray 1 Level Sensor is up (H), the Motor will not switch on. Tray 1 must be installed in the printer for 7-18 to run.
7	19	Tray 2 Lift Motor	When Tray 2 Level Sensor is down (L), the Motor runs for 2 seconds, then switches off. When Tray 2 Level Sensor is up (H), the Motor will not switch on. Tray 2 must be installed in the printer for 7-19 to run.
7	20	Tray 3 Lift Motor	When Tray 3 Level Sensor is down (L), the Motor runs for 2 seconds, then switches off. When Tray 3 Level Sensor is up (H), the Motor will not switch on. Tray 3 must be installed in the HCF for 7-20 to run.
7	21	Tray 4 Lift Motor	When Tray 4 Level Sensor is down (L), the Motor runs for 2 seconds, then switches off. When Tray 4 Level Sensor is up (H), the Motor will not switch on. Tray 4 must be installed in the HCF to 7-21 to run.
7	22	Tray 5 Lift Motor	When Tray 5 Level Sensor is down (L), the Motor runs for 2 seconds, then switches off. When Tray 5 Level Sensor is up (H), the Motor will not switch on. Tray 5 must be installed in the HCF for 7-22 to run.
8	1	Main Motor (alternate)	
8	2	HCF Feed Motor	
8	3	Envelope Feed Motor	
8	10	Registration Clutch	Stop the test after 5 seconds.
8	12	Tray 1 Feed Clutch	Stop the test after 5 seconds
8	13	Tray 2 Feed Clutch	Stop the test after 5 seconds
8	14	Tray 3 (HCF3) Feed Clutch	Stop the test after 5 seconds
8	15	Tray 4 (HCF4) Feed Clutch	Stop the test after 5 seconds
8	16	Tray 5 (HCF5) Feed Clutch	Stop the test after 5 seconds
8	17	MSI/Envelope Feed Clutch	Stop the test after 5 seconds

Output Test table continued

Chain (Routine)	Function (Subroutine)	Switches on the...	Comments
8	36	Duplex Module Exit Gate Solenoid	Switches off after 3 seconds
8	37	Duplex Module Wait Clutch	Switches off after 3 seconds
8	38	Duplex Module Drive Motor at slow speed	
8	39	Duplex Module Drive Motor at fast speed	
8	50	Invert Clutch CW	Controlled by the Duplex Module Switches off after 3 seconds
8	51	Invert Clutch CCW	Switches off after 3 seconds
9	1	Main Motor (alternate)	
9	21	Developer Bias	Switches on the HVPS - Developer Bias
9	23	BCR (AC) voltage	Switches on the HVPS - BCR (AC)
9	24	BCR (DC) voltage	Switches on the HVPS - BCR (DC)
9	26	BTR voltage change in SEL	Switches on the HVPS - BTR
9	27	DTS voltage	Switches on the HVPS - Detack
9	29	BTR RMT voltage change	Switches on the HVPS - BTR (+DC)
10	4	Fuser Fan Motor from mid to high speed	
10	6	Offset Motor (forward)	
10	7	Offset Motor (reverse)	
10	50	Face Up Exit Clutch	Controlled by the Duplex Module
10	51	Exit Gate Solenoid	Switches the Gate to the Face Up Tray
10	53	Invert Clutch CW and Face Up Exit Clutch	Controlled by the MCU PWB
11	3	Mailbox Motor	
11	13	Gate IN Solenoid -Pull	Opens IN Gate. Switch off test after 5 seconds
11	15	BIN 2 Gate Solenoid	Opens Gate 2. Switch off test after 5 seconds
11	16	BIN 3 Gate Solenoid	Opens Gate 3. Switch off test after 5 seconds

Output Test table continued

Chain (Routine)	Function (Subroutine)	Switches on the...	Comments
11	17	BIN 4 Gate Solenoid	Opens Gate 4. Switch off test after 5 seconds
11	18	BIN 5 Gate Solenoid	Opens Gate 5. Switch off test after 5 seconds
11	19	BIN 6 Gate Solenoid	Opens Gate 6. Switch off test after 5 seconds
11	20	BIN 7 Gate Solenoid	Opens Gate 7. Switch off test after 5 seconds
11	21	BIN 8 Gate Solenoid	Opens Gate 8. Switch off test after 5 seconds
11	22	BIN 9 Gate Solenoid	Opens Gate 9. Switch off test after 5 seconds
11	23	BIN 10 Gate Solenoid	Opens Gate 10. Switch off test after 5 seconds
14	50	Gate IN Solenoid - Pull	Opens IN Gate
14	51	Gate IN Solenoid - Push	Closes IN Gate
14	52	Transport Motor	
14	53	Tamper Motor - tamper to front	
14	54	Tamper Motor - tamper to rear	
14	55	Complier Tray Up/Down Solenoid	
14	56	End Wall Motor - forward	
14	57	End Wall Motor - reverse	
14	58	Stapler Transport Motor - Move to front	
14	59	Stapler Transport Motor - Move to rear	
14	60	Staple Head Motor	
14	61	Eject Clamp and Offset Motor - CW	Clamp
14	62	Eject Clamp and Offset Motor - CCW	Offset
14	63	Eject Motor- Forward at low speed	
14	64	Eject Motor - Forward at high speed	
14	65	Eject Motor - reverse	
14	66	Set Clamp Motor	
14	67	Stacker Elevator Motor (lower)	
14	68	Stacker Elevator Motor (raise)	
14	69	Tray 1 Motor - CW	

Output Test table continued

Chain (Routine)	Function (Subroutine)	Switches on the...	Comments
14	70	Tray 1 Motor - CCW	
14	71	Tray 2 Motor - CW	
14	72	Tray 2 Motor - CCW	
14	73	Tray 3 Motor - CW	
14	74	Tray 3 Motor - CCW	
14	75	Unload While Running LED	

Running an Input Test (H/L)

Use this Diagnostic routine to check the digital signal level (High or Low) from a sensor or switch. This test tells you whether or not a sensor or switch is working correctly and is sending a signal to the MCU PWB.

1. Enter Diagnostic Mode

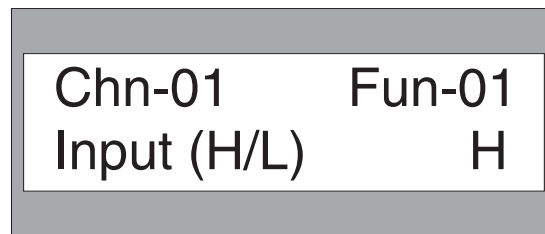
The printer is in Diagnostic Mode and the LCD displays Chn-00 Fun-00.

2. Select an Input Test (H/L) from the table on the next page.
3. Use the Control Panel keys to enter the Chain number of the test.
4. Press Function Key [1] to switch the cursor from Chn and Fun.
5. Use the Control Panel keys to enter the Fun number of the test.
6. Press Function Key [1] to start the Input test.

The LCD displays the *Chn - Fun* number of the test, *Input (H/L)*, and *H or L* to indicate the status of the sensor or switch at that moment.

7. Watch the status field as you manually actuate the sensor or switch.

The status field should change from either H to L or L to H as you manually actuate and deactuate the sensor or switch.



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8. When you are finished with this test, switch off printer main power to exit Diagnostic Mode.

To change to another Input Test

1. Press [0] to stop the current Input test.
2. Press [0] to move the cursor to Chn.
3. Select a new Input Test from the table on the next page.
4. Use the Control Panel keys to enter the Chain number of the new test.
5. Press Function Key [1] to switch the cursor from Chn and Fun.
6. Use the Control Panel keys to enter the Fun number of the new test.
7. Press Function Key [1] to start the new Input test.

The LCD displays the *Chn - Fun* number of the new test, *Input (H/L)*, and *H or L* to indicate the status of the sensor or switch at that moment.

8. Watch the status field as you manually actuate the sensor or switch.

Input Test (H/L) table

Chain (Routine)	Function (Subroutine)	Signal from the...	Comments
1	1	Upper Cover Interlock Switch	H = Cover is open (switch is off) L = Cover is closed (switch is on)
1	10	Cabinet Tray Interlock Switch	H = Cover is open (switch is off) L = Cover is closed (switch is on)
6	70	ROS Motor	H = Not ready L = Ready
7	7	Tray 1 No Paper Sensor	H = No paper sensed L = Paper sensed
7	8	Tray 2 No Paper Sensor	H = No paper sensed L = Paper sensed
7	9	Tray 3 (HCF3) No Paper Sensor	H = No paper sensed L = Paper sensed
7	10	Tray 4 (HCF4) No Paper Sensor	H = No paper sensed L = Paper sensed
7	11	Tray 5 (HCF5) No Paper Sensor	H = No paper sensed L = Paper sensed
7	12	Envelope No Paper Sensor	H = No paper sensed L = Paper sensed
7	13	Tray 1 Level Sensor	H = Tray out & Feeder not in feed position L = Tray in & Feeder in feed position
7	14	Tray 2 Level Sensor	H = Tray out & Feeder not in feed position L = Tray in & Feeder in feed position
7	15	Tray 3 Level Sensor	H = Tray out & Feeder not in feed position L = Tray in & Feeder in feed position
7	16	Tray 4 (HCF4) Level Sensor	H = Tray out & Feeder not in feed position L = Tray in & Feeder in feed position
7	17	Tray 5 (HCF5) Level Sensor	H = Tray out & Feeder not in feed position L = Tray in & Feeder in feed position
7	30	Full Stack Sensor	H = Paper sensed L = No paper sensed
8	5	Registration Sensor	H = Paper sensed L = No paper sensed
8	7	Take Away Roll 2 Sensor	H = Paper sensed L = No paper sensed
8	8	Take Away Roll 3 Sensor	H = Paper sensed L = No paper sensed
8	9	Take Away Roll 4 Sensor	H = Paper sensed L = No paper sensed
8	20	Envelope Feed Sensor	H = Paper sensed L = No Paper sensed
8	30	Duplex Module Exit Sensor	H = Paper sensed L = No Paper sensed

Input Test (H/L) table continued

Chain (Routine)	Function (Subroutine)	Signal from the...	Comments
8	31	Duplex Module Wait Sensor	H = Paper sensed L = No Paper sensed
8	32	Registration Sensor (for Duplex operation)	H = Paper sensed L = No paper sensed Same routine as 8-5, but for Duplex Module operation
8	33	Duplex Module Interlock Switch	H = Interlock open L = Interlock closed
8	34	Fuser Exit Sensor (for Duplex operation)	H = Paper sensed L = No paper sensed For Duplex Module operation
9	2	CRU Interlock Switch	H = CRU in place L = CRU not in place
9	4	Toner Sensor	H = Toner at unacceptable level L = Toner at acceptable level
10	23	Fuser Exit Sensor	H = Paper sensed L = No paper sensed
10	24	Face Up Exit Sensor	H = No paper sensed L = Paper sensed
10	60	Fuser Fan Fail Monitor Signal	H = Fan failure L = Fan normal
11	44	Left Hand Door Interlock Switch	H = Door is open (switch is off) L = Door is closed (switch is on)
11	60	BIN 1 Full Stack Sensor	H = Paper sensed L = No paper sensed
11	61	BIN 2 Full Stack Sensor	H = Paper sensed L = No paper sensed
11	62	BIN 3 Full Stack Sensor	H = Paper sensed L = No paper sensed
11	63	BIN 4 Full Stack Sensor	H = Paper sensed L = No paper sensed
11	64	BIN 5 Full Stack Sensor	H = Paper sensed L = No paper sensed
11	65	BIN 6 Full Stack Sensor	H = Paper sensed L = No paper sensed
11	66	BIN 7 Full Stack Sensor	H = Paper sensed L = No paper sensed
11	67	BIN 8 Full Stack Sensor	H = Paper sensed L = No paper sensed
11	68	BIN 9 Full Stack Sensor	H = Paper sensed L = No paper sensed
11	69	BIN 10 Full Stack Sensor	H = Paper sensed L = No paper sensed

Input Test (H/L) table continued

Chain (Routine)	Function (Subroutine)	Signal from the...	Comments
11	70	Vertical Sensor	H = No paper sensed L = Paper sensed
11	71	BIN 1 Jam Sensor	H = No paper sensed L = Paper sensed
11	72	Entrance Sensor	H = No paper sensed L = Paper sensed
12	1	Transport Entrance Sensor	H = Paper sensed L = No paper sensed
12	2	Transport Exit Sensor	H = Paper sensed L = No paper sensed
12	3	Compiler Tray Exit Sensor	H = Paper sensed L = No paper sensed
12	4	Tamper Home Sensor	H = Home position L = Off home position
12	5	Compiler Paper Sensor	H = Paper sensed L = No paper sensed
12	6	Compiler Cover Safety Switch	H = Cover closed L = Cover open
12	7	Top Cover Interlock Switch	H = Cover open L = Cover closed
12	8	End Wall Open Sensor	H = Wall up L = Wall down
12	9	Stapler Front Corner Sensor	H = Front corner position L = Off front corner position
12	10	Stapler Front Edge Sensor	H = Front edge position L = Off front edge position
12	11	Stapler Rear edge Sensor	H = Rear edge position L = Off rear edge position
12	12	Stapler Head Home Sensor (internal to Stapler Assembly)	H = Home position L = Off Home position
12	13	Stapler Ready Sensor (internal to Stapler Assembly)	H = Not ready L = Ready
12	14	Low Staple Switch (internal to Stapler Assembly)	H = Staple level low L = Staple level normal
12	15	Cartridge Set Switch (internal to Stapler Assembly)	H = Cartridge in place L = Cartridge not in place
12	16	Eject Clamp Sensor	H = Eject clamp down L = Eject clamp up
12	17	Set Clamp Home Sensor	H = Home position L = Off home position
12	18	Stacker Offset Home Sensor	H = Off home position L = Home position

Input Test (H/L) table continued

Chain (Routine)	Function (Subroutine)	Signal from the...	Comments
12	19	Top Tray Paper Sensor	H = Paper sensed L = No paper sensed
12	20	Middle Tray Paper Sensor	H = Paper sensed L = No paper sensed
12	21	Bottom Tray Paper Sensor	H = Paper sensed L = No paper sensed
12	22	Top Tray Half Sensor	H = Paper sensed L = No paper sensed
12	23	Middle Tray Half Sensor	H = Paper sensed L = No paper sensed
12	24	Bottom Tray Half Sensor	H = Paper sensed L = No paper sensed
12	25	Top Tray Full Sensor	H = Paper sensed L = No paper sensed
12	26	Middle Tray Full Sensor	H = Paper sensed L = No paper sensed
12	27	Bottom Tray Full Sensor	H = Paper sensed L = No paper sensed
12	28	Stacker Tray ID Sensor	H = Not actuated L = Actuated
12	29	Stacker Upper Limit Switch	H = Actuated L = Not actuated
12	30	Stacker Lower Limit Switch	H = Actuated L = Not actuated
12	31	Stacker Lower Safety Switch	H = Actuated L = Not actuated
12	32	Unload While Running Switch	H = Actuated L = Not actuated
12	33	Front Cover Interlock Switch	H = Not actuated L = Actuated
12	34	IN Gate Interlock Switch	H = Not actuated L = Actuated
12	35	Transport Interlock Switch	H = Not actuated L = Actuated
12	36	Compiler Cover Switch	H = Not actuated L = Actuated
12	37	Top Tray Upper Limit Switch	H = Actuated L = Not actuated
12	38	Middle Tray Upper Limit Switch	H = Actuated L = Not actuated
12	39	Bottom Tray Upper Limit Switch	H = Actuated L = Not actuated

Input Test (H/L) table continued

Chain (Routine)	Function (Subroutine)	Signal from the...	Comments
12	40	Top Tray Lower Limit Switch	H = Actuated L = Not actuated
12	41	Middle Tray Lower Limit Switch	H = Actuated L = Not actuated
12	42	Bottom Tray Lower Limit Switch	H = Actuated L = Not actuated
12	43	Stack Height Sensor	H = Actuated L = Not actuated
12	44	IOT Full Paper Sensor	H = Actuated L = Not actuated
12	45	Top Tray Safety Switch & Bottom Tray Safety Switch	H = Actuated L = Not actuated
12	46	Complier Cover Interlock Switch	H = Not actuated L = Actuated

Running an Input Test (A/D)

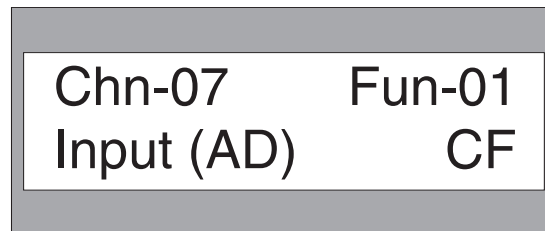
Use this Diagnostic routine to check the analog signal level (0 ~ n) or digital signal level (a hexadecimal number) coming from a switch or sensor. This test tells you whether or not a switch or sensor is working correctly and sending the correct voltage signal level to the MCU PWB. Use the tables provided on the following pages to interpret the displayed values.

1. Enter Diagnostic Mode

The printer is in Diagnostic Mode and the LCD displays Chn-00 Fun-00.

2. Select an Input Test (A/D) from the tables on the following pages.
3. Use the Control Panel keys to enter the Chain number of the test.
4. Press Function Key [1] to switch the cursor from Chn and Fun.
5. Use the Control Panel keys to enter the Fun number of the test.
6. Press Function Key [1] to start the Input test.

The LCD displays the *Chn* - *Fun* number of the test, *Input (A/D)*, and a hexadecimal number that corresponds to the level send from the switch or sensor.



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7. When you are finished with this test, switch off printer main power to exit Diagnostic Mode.

Input Test (A/D) table for Paper Size Sensors

Chain (Routine)	Function (Subroutine)	Signal from the...	Comments
7	1	Tray 1 Paper Size Sensor	Hex number. See table
7	2	Tray 2 Paper Size Sensor	Hex number. See table
7	3	Tray 3 (HCF3) Size Sensor	Hex number. See table
7	4	Tray 4 (HCF4) Size Sensor	Hex number. See table
7	5	Tray 5 (HCF5) Size Sensor	Hex number. See table
7	6	MSI/Envelope Size Sensor	Hex number. See table
7	23	HCF Detect	Hex number. See table
10	20	Fuser Heat Roll Temperature	Changing hex number. See table

Hex numbers for Trays 1, 2, and 3

A/D number displayed Typical number / possible range of numbers	Meaning of A/D number
FF / (F8 ~ FF)	No feeder detected
EE / (E7 ~ F7)	No tray detected in feeder
DE / (D7 ~ E6)	System problem with paper size. Reset size
CE / (C7 ~ D6)	8.5" x 11" LEF
BE / (B7 ~ C6)	Either A4 LEF or A5 LEF
AF / (A8 ~ B6)	Either B5 LEF or 7.5" x 10.5" LEF
9F / (96 ~ A7)	System problem with paper size. Reset size
90 / (89 ~ 95)	8.5" x 11" SEF
80 / (7A ~ 88)	A4 SEF
72 / (6B ~ 79)	11" x 17" SEF
62 / (5B ~ 6A)	A3 SEF
53 / (4C ~ 5A)	5.5" x 8.5" LEF
44 / (3D ~ 4B)	A5 LEF
35 / (2E ~ 3C)	8.5" x 13" SEF
26 / (1F ~ 2D)	System problem with paper size. Reset size
17 / (10 ~ 1E)	Either 8.5" x 14" SEF or B4 SEF
08 / (00 ~ 0F)	B5 SEF

Hex numbers for Trays 4 and 5

A/D number displayed Typical number / possible range of numbers	Meaning of A/D number
FF / (F8 ~ FF)	No feeder detected
EE / (E7 ~ F7)	No tray detected in feeder
CE / (C7 ~ D6)	Either B5 LEF or 7.25" x 10.5 LEF
72 / (6B ~ 79)	8.5" x 11" LEF
53 / (4C ~ 5A)	A4 LEF
Any number not listed or is out of range	System problem with paper size. Reinitialize the HCF

Hex numbers for the MSI and the Envelope Feeder

Range of A/D numbers displayed	Meaning of A/D number
DA ~ FF	Refile 95mm x 170mm Japanese Postcard A6 SEF Postcard 105mm x 148mm
AB ~ D9	B6 SEF 5.5" x 8.5" SEF A5 SEF
81 ~ AA	Label SEF ISO B5 SEF B6 LEF B5 SEF 7.25" x 10.5" SEF
5D ~ 80	A5 LEF A4 SEF 5.5" x 8.5" LEF 8.5" X 11" SEF 8.5" x 12" SEF 8.5" x 13" SEF 8.5" x 14" SEF
30 ~ 5C	#10 ENV LEF ISO B5 LEF B5 LEF B4 LEF
00 ~ 2F	8.5" x 11" LEF 11" x 15" SEF 11" x 17" SEF A4 LEF A3 SEF

Hex numbers for the Heat Roll Temperature

A/D number displayed	Fuser Heat Roll temperature
C9	150°C
C3	155°C
BE	160°C
B8	165°C
82	170°C
AB	175°C
A5	180°C
9F	185°C
98	190°C
92	195°C
8B	200°C
85	205°C
7F	210°C
78	215°C
72	220°C
6D	225°C
67	230°C
62	235°C
5C	240°C
57	245°C
53	250°C

Running an Input n+1 Test

Use this Diagnostic routine run a simple check on any sensor in the printer and printer options, and on the Control Panel keys.

1. Enter Diagnostic Mode

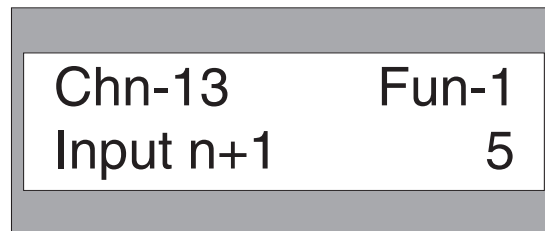
The printer is in Diagnostic Mode and the LCD displays Chn-00 Fun-00.

2. Select an Input n+1 Test (A/D) from the table below.
3. Use the Control Panel keys to enter the Chain number of the test.
4. Press Function Key [1] to switch the cursor from Chn and Fun.
5. Use the Control Panel keys to enter the Fun number of the test.
6. Press Function Key [1] to start the Input n+1 test.

The LCD displays the *Chn* - *Fun* number of the test, *Input n+1*, and the number 0.

7. Watch the status field as you manually actuate a sensor or switch.

The number field should increment by 1 each time you manually actuate and deactivate the sensor or switch. The incrementing indicates that the sensor or switch is functioning correctly.



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8. When you are finished with this test, switch off printer main power to exit Diagnostic Mode.

Input n+1 Test table

Chain (Routine)	Function (Subroutine)	Signal from the...	Comments
2	1	Control panel keys	Increments count by 1 each time a Control Panel key is pressed. - except for key [2] which stops the test. This test functions only if the Control Panel is connected to the MCU PWB.
13	1	Printer and Options sensors and switches	Increments count by 1 each time a sensor or switch is manually actuated. This test functions only if the Control Panel is connected to the MCU PWB. This test does not check the Control Panel keys; see Diagnostic Routine 2-1.

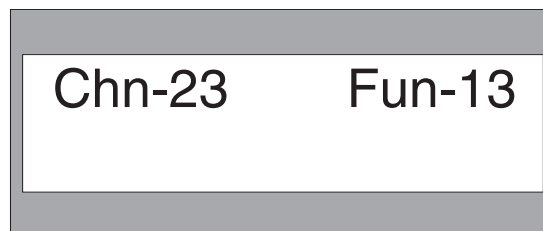
Running Test Print

Use this diagnostic routine to print a specific type of test pattern. The test patterns are built into the printer circuitry, so Test Print is an excellent tool for isolating and diagnosing print quality problems. Through this routine you can also specify the Test Print output destination - such as to the Face Up Tray, to a specific Mailbox bin, or to the High Capacity Stacker.

To generate a Test Print

1. Enter Diagnostic Mode
The printer is in Diagnostic Mode and the LCD displays Chn-00 Fun-00.
2. Select a specific output destination from the table on the next two pages.
3. Use the Control Panel keys to enter the Chain number of the output destination.
4. Press Function Key [1] to switch the cursor from Chn and Fun.
5. Use the Control Panel keys to enter the Fun number of the output destination.
6. Press Function Key [1].
7. Use the Control Panel keys to enter the output destination NV number.
8. Press Function Key [1] to write the output destination to NVRAM.
9. Press Function Key [0] to exit the output destination routine.
10. Select a specific Test Print pattern from the table on the next two pages.
11. Use the Control Panel keys to enter the Chain number of the test.
12. Press Function Key [1] to switch the cursor from Chn and Fun.
13. Use the Control Panel keys to enter the Fun number of the test.
14. Press Function Key [1] to generate a Test Print.

The printer generates test prints until you stop the routine.



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To stop Test Print

1. Press Function Key [0].

To generate a Test Print without using Diagnostic Mode

OEM customers have the option of designing an Video Controller that contains a Test Print switch or button. The base 3260/4032 printer, without an Video Controller installed, can generate a Test Print **only** through Diagnostic Mode.

Test Print table

Chain (Routine)	Function (Subroutine)	Tray, Mode, and Test Pattern Type
23	10	Tray 1 Simplex Mode: Blank sheet of paper
23	11	Tray 1 Simplex Mode: Solid black up to the white margins
23	13	Tray 1 Simplex Mode: 4 dot grid pattern
23	20	Tray 2 Simplex Mode: Blank sheet of paper
23	21	Tray 2 Simplex Mode: Solid black up to the white margins
23	23	Tray 2 Simplex Mode: 4 dot grid pattern
23	30	Tray 3 Simplex Mode: Blank sheet of paper
23	31	Tray 3 Simplex Mode: Solid black up to the white margins
23	33	Tray 3 Simplex Mode: 4 dot grid pattern
23	40	Tray 4 Simplex Mode: Blank sheet of paper
23	41	Tray 4 Simplex Mode: Solid black up to the white margins
23	43	Tray 4 Simplex Mode: 4 dot grid pattern
23	50	Tray 5 Simplex Mode: Blank sheet of paper
23	51	Tray 5 Simplex Mode: Solid black up to the white margins
23	53	Tray 5 Simplex Mode: 4 dot grid pattern
23	60	MSI/Envelope Feeder Simplex Mode: Blank sheet of paper
23	61	MSI/Envelope Feeder Simplex Mode: Solid black up to the white margins image area
23	63	MSI/Envelope Feeder Simplex Mode: 4 dot grid pattern
23	70	Alternating black and white bands at 80mm spacing
23	78	HCS Compiler Stack Size Limit (default = 10) 2 ~ 50
23	79	HCS Offset Selection (default = 0) 0 = Front offset 1 = Rear offset 2 = Alternate Front & Rear offset

Test Print table continued

Chain (Routine)	Function (Subroutine)	Test Print Output Destination NV number = test print destination
23	75	Test Print Destination (default = 0) 0 = Face Down Tray 1 = Face Up Tray 2 = Mailbox: sorter mode 3 = Mailbox: mailbox mode 4 = HCS Top Tray 5 = HCS Middle Tray 6 = HCS Bottom Tray
23	76	Test Print Mailbox Bin Destination (default = 10) 1 = Bin 1 2 = Bin 2 3 = Bin 3 4 = Bin 4 5 = Bin 5 6 = Bin 6 7 = Bin 7 8 = Bin 8 9 = Bin 9 10 = Bin 10
23	77	Test Print HCS Stapler Selection (default = 1) 0 = Do not staple 1 = Front staple 2 = Rear staple 3 = Dual staple
23	78	Test Print HCS Compiler Stack Size Limit (default = 10) 2 ~ 50
23	79	Test Print HCS Offset Selection (default = 0) 0 = Front offset 1 = Rear offset 2 = Alternate Front & Rear offset

Test Print table continued

Chain (Routine)	Function (Subroutine)	Tray, Mode, and Test Pattern Type
24	10	Tray 1 Duplex Mode: Blank sheet of paper
24	11	Tray 1 Duplex Mode: Solid black up to the white margins
24	13	Tray 1 Duplex Mode: 4 dot grid pattern
24	20	Tray 2 Duplex Mode: Blank sheet of paper
24	21	Tray 2 Duplex Mode: Solid black up to the white margins
24	23	Tray 2 Duplex Mode: 4 dot grid pattern
24	30	Tray 3 Duplex Mode: Blank sheet of paper
24	31	Tray 3 Duplex Mode: Solid black up to the white margins
24	33	Tray 3 Duplex Mode: 4 dot grid pattern
24	40	Tray 4 Duplex Mode: Blank sheet of paper
24	41	Tray 4 Duplex Mode: Solid black up to the white margins
24	43	Tray 4 Duplex Mode: 4 dot grid pattern
24	50	Tray 5 Duplex Mode: Blank sheet of paper
24	51	Tray 5 Duplex Mode: Solid black up to the white margins
24	53	Tray 5 Duplex Mode: 4 dot grid pattern

Viewing a Paper Feeder Usage Log

Use this diagnostic routine to display the Paper Feeder Usage Logs. Each log displays the number of paper feeds from a selected feeder or from a selected area of the printer.

1. Enter Diagnostic Mode

The printer is in Diagnostic Mode and the LCD displays Chn-00 Fun-00.

2. Select a specific Paper Feeder Usage Log from the table on this page.
3. Use the Control Panel keys to enter the Chain number of the test.
4. Press Function Key [1] to switch the cursor from Chn and Fun.
5. Use the Control Panel keys to enter the Fun number of the test.
6. Press Function Key [1] to read the contents of the log.

The number on the lower right of the LCD displays the number of sheets of paper.

NOTE

The usage logs are stored on the MCU PWB. Replacing the MCU PWB with a new one destroys the correct count for the feeder usage. Read and record the Usage Log for the old MCU and input that information into the new MCU.

7. Press Function Key [0] to stop the routine.

Paper Feeder Usage Log table

Chain (Routine)	Function (Subroutine)	Log displayed	Maximum number displayed
30	1	Number of sheets of paper that reached the BTR	999,999 (After replacing the BTR, clear the usage log)
30	5	Total print count on printer	1,500,000 (After replacing the MCU PWB, set the usage logs 5 ~ 10 to the count saved in the old MCU PWB)
30	6	Number of paper feeds from Tray 1	999,999
30	7	Number of paper feeds from Tray 2	999,999
30	8	Number of paper feeds from Tray 3 (HCF3)	999,999
30	9	Number of paper feeds from Tray 4 (HCF4)	999,999
30	10	Number of paper feeds from Tray 5 (HCF5)	999,999

To clear a Usage Log

1. Use the Control Panel keys to scroll through each of the digits that are displayed in the LCD.
2. Use the Control Panel keys to set each digit, in turn, to 0 (zero).
3. Press Function Key [1].
4. Exit Diagnostics.

Viewing the CRU Print Count

Use this diagnostic routine to display the total number of prints the installed CRU has made. Each individual CRU contains a CRU Memory. Routine 30-16 reads that memory and displays the print count for the installed CRU.

1. Enter Diagnostic Mode

The printer is in Diagnostic Mode and the LCD displays Chn-00 Fun-00.

2. Use the Control Panel keys to enter Chain number 30.
3. Press Function Key [1] to switch the cursor from Chn and Fun.
4. Use the Control Panel keys to enter Fun number 16.
5. Press Function Key [1] to read the contents of the log.

The number on the lower right of the LCD displays the number of prints the installed CRU has made.

6. Press Function Key [0] to stop the routine.

Section 9 - Making Printer Adjustments

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Adjustment Routines

Use the Adjustment Routines to read and change printer operation parameter values that are stored in NVRAM.

NOTE

This section lists only those adjustment routines and subroutines that would be of value to the average printer technician. Additional routines are listed in the printer Video Interface Specification. The additional routines are designed for engineering and manufacturing use only and have little or no significance to printer troubleshooting and repair.

CAUTION

Run only those Adjustment routines that are listed in this manual. Do not enter random numbers when in Adjustment Mode. Adjustment Mode provides very little feedback to the Control Panel LCD as to which Adjustment Routine you are running. By entering random numbers you could unknowingly alter important printer operation parameters and seriously effect normal printer operation.

Adjustment Routine options

The adjustments you can make in Adjustment Mode include:

- Lead edge registration
- MSI paper width
- Reset after a fuser over temperature shutdown
- Options install notification

To read a current value stored in NVRAM

Use this Adjustment routine to read the current value of the selected image registration parameter.

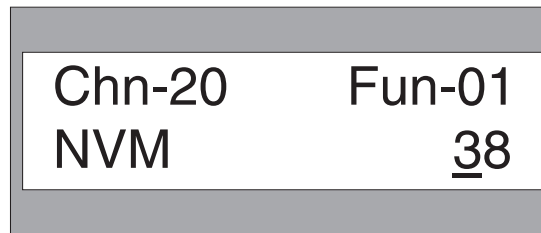
1. Enter Diagnostic Mode

The printer is in Diagnostic Mode and the LCD displays Chn-00 Fun-00.

2. Select a registration routine from the table on page five.
3. Use the Control Panel keys to enter the Chain number of the routine.
4. Press Function Key [1] to switch the cursor from Chn and Fun.
5. Use the Control Panel keys to enter the Fun number of the routine.
6. Press Function Key [1] to view the current value of the selected registration parameter.

The LCD displays the *Chn - Fun* number of the test, *NVM*, and *the current value*.

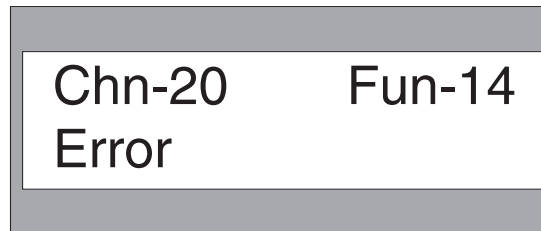
Refer to the table for the meaning of the current value number.



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Getting an Error message while attempting to view a parameter

If you select an invalid or unimplemented registration routine the LCD displays **Error** on the bottom line.



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To clear the Error so you can continue:

1. Press Function Key [0] to clear the Error.
2. Enter a new registration routine.

To select and view another stored value

1. Press [0] to clear the LCD.
2. Select a new routine from the table on page five.
3. Use the Control Panel keys to enter the Chain number of the new routine.
4. Press Function Key [1] to switch the cursor from Chn and Fun.
5. Use the Control Panel keys to enter the Fun number of the new routine.
6. Press Function Key [1] to view the current value of the new registration routine.

The LCD displays the *Chn - Fun* number of the test, *NVM*, and *the current value*.

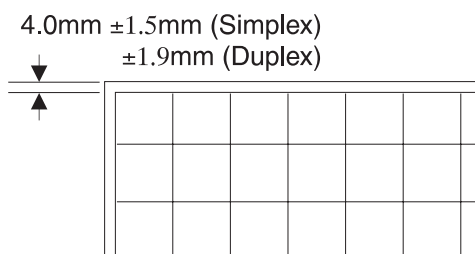
To Adjust Lead Edge Registration

Use these routines to align the image on the drum with the lead edge of the paper. Each feeder has a separate Lead Edge Adjustment procedure. Use the table below to select the appropriate feeder.

Chain (Routine)	Function (Subroutine)	Purpose	Min Value	Nom Value	Max Value	Step Value
20	1	Lead edge registration - All trays	0	8	20	1=0.346mm
20	41	Lead edge registration - Tray 1	0	8	20	1=0.346mm
20	42	Lead edge registration - Tray 2 ~ 5	0	8	20	1=0.346mm
20	43	Lead edge registration - MSI	0	8	20	1=0.346mm
20	44	Lead edge registration - Envelope	0	8	20	1=0.346mm
20	45	Lead edge registration - Duplex Module	0	8	20	1=0.346mm

Checking Lead Edge Registration

1. Use Diagnostic Routine 23-13 to generate a Grid Test Pattern.
2. Measure the distance from the lead edge of the paper to the beginning of the grid pattern.
3. If the measurement is $4.0\text{mm} \pm 1.5\text{mm}$ ($\pm 1.9\text{mm}$ Duplex), the lead edge registration is within specification.
4. If the measurement is out of specification, procedure to *Adjusting Lead Edge Registration*.



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Adjusting Lead Edge Registration

1. Enter Adjustment Routine 20-1 (Lead Edge Registration for all trays).
2. Press Function Key [1] to view the current value of all tray lead edge registration.
The LCD displays the *Chn - Fun* number of the test, *NVM*, and the *current value*.
The cursor is under the first digit of the current value.
3. Use the Control Panel keys to change the value of the first digit.
4. Press [5] to move the cursor to the second digit.
5. Use the Control Panel keys to change the value of the second digit.
6. Press Function Key [1] to write the new value to memory.
7. Press Function Key [0] to clear the bottom line.
8. Press Function Key [1] to read the new value.
9. Use Diagnostic Routine 23-13 to generate a Grid Test Pattern.
10. Measure the new lead edge registration.
11. **When you have finished making all of the changes, run NVRAM Initialization Chn-20 Fun-67.**
This writes to NVRAM the new lead edge registration value for all trays.

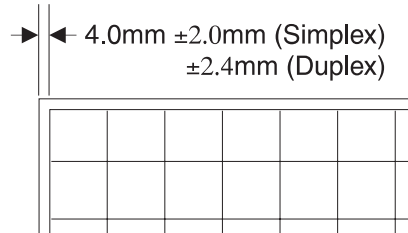
To Adjust Side Edge Registration

Use these routines to align the image on the drum with the side edge of the paper. Each feeder has a separate Side Edge Adjustment procedure. Use the table below to select the appropriate feeder.

Chain (Routine)	Function (Subroutine)	Purpose	Min Value	Nom Value	Max Value	Step Value
6	20	Side edge registration - All trays	01	50	99	1=0.258mm
6	21	Side edge registration - Tray 1	01	50	99	1=0.258mm
6	22	Side edge registration - Tray 2	01	50	99	1=0.258mm
6	23	Side edge registration - Tray 3	01	50	99	1=0.258mm
6	24	Side edge registration - Tray 4	01	50	99	1=0.258mm
6	25	Side edge registration - Tray 5	01	50	99	1=0.258mm
6	26	Side edge registration - MSI	01	50	99	1=0.258mm
6	27	Side edge registration - Envelope	01	50	99	1=0.258mm
6	28	Side edge registration - Duplex / all trays	01	50	99	1=0.258mm

Checking Side Edge Registration

1. Use Diagnostic Routine 23-13 to generate a Grid Test Pattern.
2. Measure the distance from the side edge of the paper to the beginning of the grid pattern.
3. If the measurement is $4.0\text{mm} \pm 2.0\text{mm}$ ($\pm 2.4\text{mm}$ Duplex), the side edge registration is within specification.
4. If the measurement is out of specification, procedure to *Adjusting Side Edge Registration*.



SER978XA

Adjusting Side Edge Registration

1. Enter Adjustment Routine 6-20 (Side Edge Registration for all trays).
2. Press Function Key [1] to view the current value of all tray side edge registration.
The LCD displays the *Chn - Fun* number of the test, *NVM*, and *the current value*.
The cursor is under the first digit of the current value.
3. Use the Control Panel keys to change the value of the first digit.
4. Press [5] to move the cursor to the second digit.
5. Use the Control Panel keys to change the value of the second digit.
6. Press Function Key [1] to write the new value to memory.
7. Press Function Key [0] to clear the bottom line.
8. Press Function Key [1] to read the new value.
9. Use Diagnostic Routine 23-13 to generate a Grid Test Pattern.
10. Measure the new side edge registration.
11. **When you have finished making all of the changes, run NVRAM Initialization Chn-20 Fun-67.**
This writes to NVRAM the new side edge registration value for all trays.

To Set the Minimum and Maximum MSI Paper Width

Use this routine to set the minimum and maximum positions of the MSI Paper Guide.

1. Open the MSI Tray.
2. Face the front of the printer, with the MSI Tray on your left.
3. Slide the MSI Paper Guide toward you (to the front of the printer), as far as it will go.
4. Enter Adjustment Routine 20-05 (Minimum width).
5. Press Function Key [1] to enter the minimum width value into memory.
The LCD displays an ERROR if the setting is out of range.
6. Press Function Key [0].

Set Maximum MSI Width

7. Enter Adjustment Routine 20-06 (Maximum width).
8. Slide the MSI Paper Guide away from you (to the rear of the printer), as far as it will go.
9. Press Function Key [1] to enter the maximum width value into memory.
The LCD displays an ERROR if the setting is out of range.
10. When you have finished setting the MSI Paper Width, switch off printer main power.

To Reset the Printer after a Fuser Overheat Shutdown

Use this routine to reset the printer after the printer shut down because of a Fuser Overheat problem. If the Overheat occurs again, troubleshoot the printer for a Fuser problem.

1. Enter Adjustment Routine 50-20 (Fuser Overheat Reset).
2. Press Function Key [1].
The NVM number displayed should be 01 if the Fuser was in overheat, and 00 if the Fuser was not in overheat.
3. Press Function Key [5] to move the cursor to the NV number.
4. Press Function Key [7] until the NV number reads 00.
5. Press Function Key [1] to write the number to memory and clear the overheat.
6. Switch off printer main power.

To Set the NVM so the Printer Recognizes an Installed Option

Use this routine to notify NVM when you install or remove a printer option.

1. Select the appropriate Adjustment Routine from the table below and enter that Adjustment Routine

Chain (Routine)	Function (Subroutine)	Printer Option	Installed	Not Installed
50	07	Face Up Catch Tray	01	00
50	11	Offset Catch Tray	01	00
50	14	Mailbox	Used as Mailbox 00	Used as Sorter 01

2. Press Function Key [1].

The LCD displays the current NVM number for the routine.

3. Press Function Key [5] to move the cursor to the NV number.
4. Press Function Key [7] until the NV number reads either 00 or 01, depending on what value you want to set.
5. Press Function Key [1] to write the number to memory.
6. Switch off printer main power.

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Removal and Replacement Procedures (RRPs)

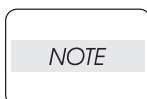
This section contains the removal and replacement procedures for major parts and subsystems within the printer.

Preparation

Before you begin any Removal and Replacement Procedure:

1. Switch OFF the printer power.
2. Disconnect the AC power cord from the wall outlet.
3. Remove the EP Cartridge and cover it with a dark cloth or place it in a sealed container to protect it from exposure to light.
4. Disconnect all interface cables from the back of the printer.
5. Wear an electrostatic discharge wrist strap to protect sensitive printer PWBs from damage.
6. Wait at least 30 minutes for the Fuser to cool before removing parts in the Fuser area.

Work Notes



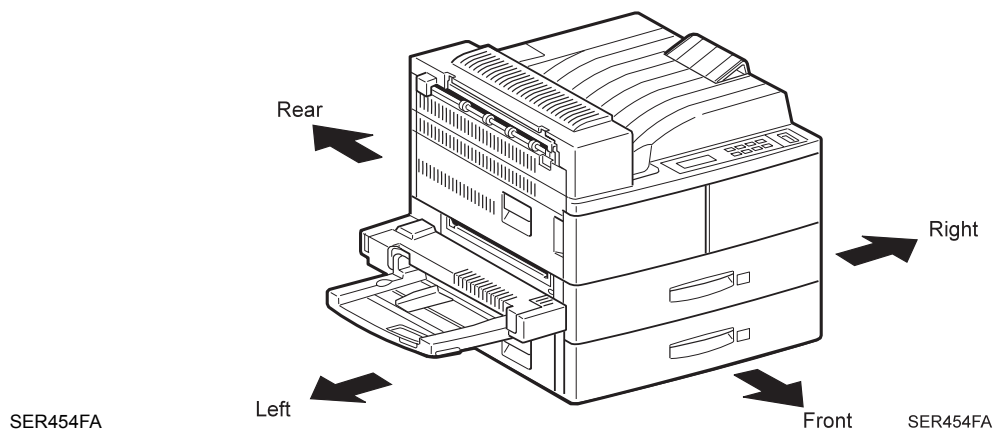
Names of parts that appear in the RRP's may not be exactly the same as the names appear in the parts list. For example, an RRP for the MSI Tray Assembly may appear on the parts list as Tray Assembly MSI.



Always reinstall the correct type and size screws. Using the wrong screw can damage tapped holes. Do not use excessive force to either remove or install a part.

Notations in the RRP text

- Locations, such as R or right, given in the RRP's assume you are facing the printer console panel.



- The notation “(RRP X.Y)” in a RRP step, directs you to another RRP for information on how to perform a related or pre-requisite procedure.
- The notation “(Figure X.Y)” points to the illustration that corresponds to the RRP you are performing.
- The notation “(PLX)” indicates that this component is listed in the PLX parts list.
- Arrows in an illustration show direction of movement when removing a component.
- Slashes in a part name indicate that numerous components share the same heading and function. For example, "Gears In/Feed/Out" refers to Gear In, Gear Feed, and Gear Out.

RRP 1.1 Fuser Full Cover (PL1.1)

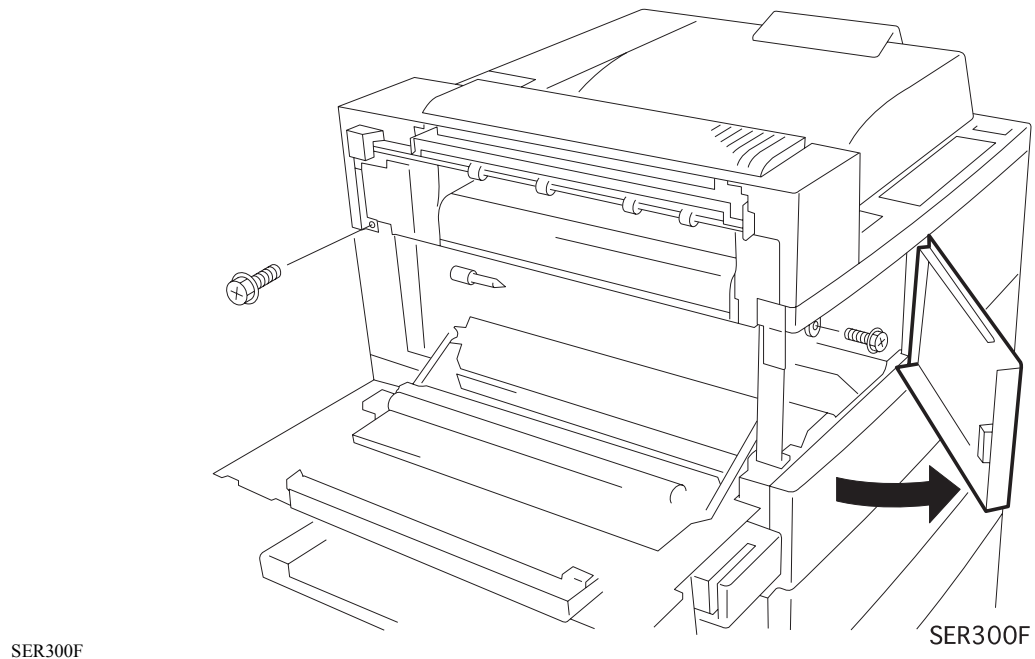


Figure 1

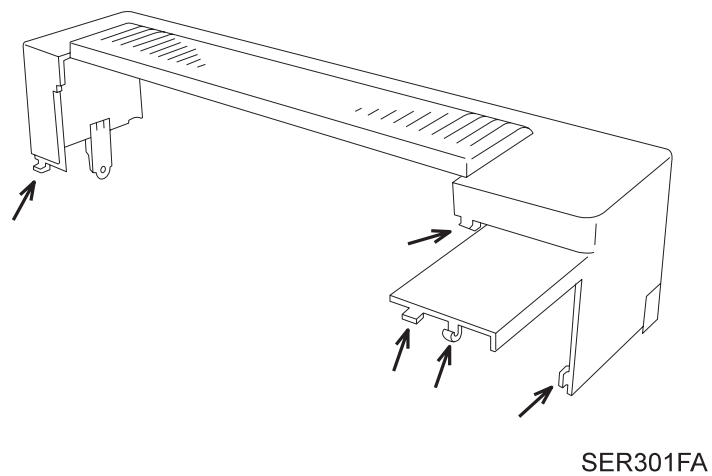


Figure 2

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RRP 1.1 Fuser Full Cover (PL1.1)

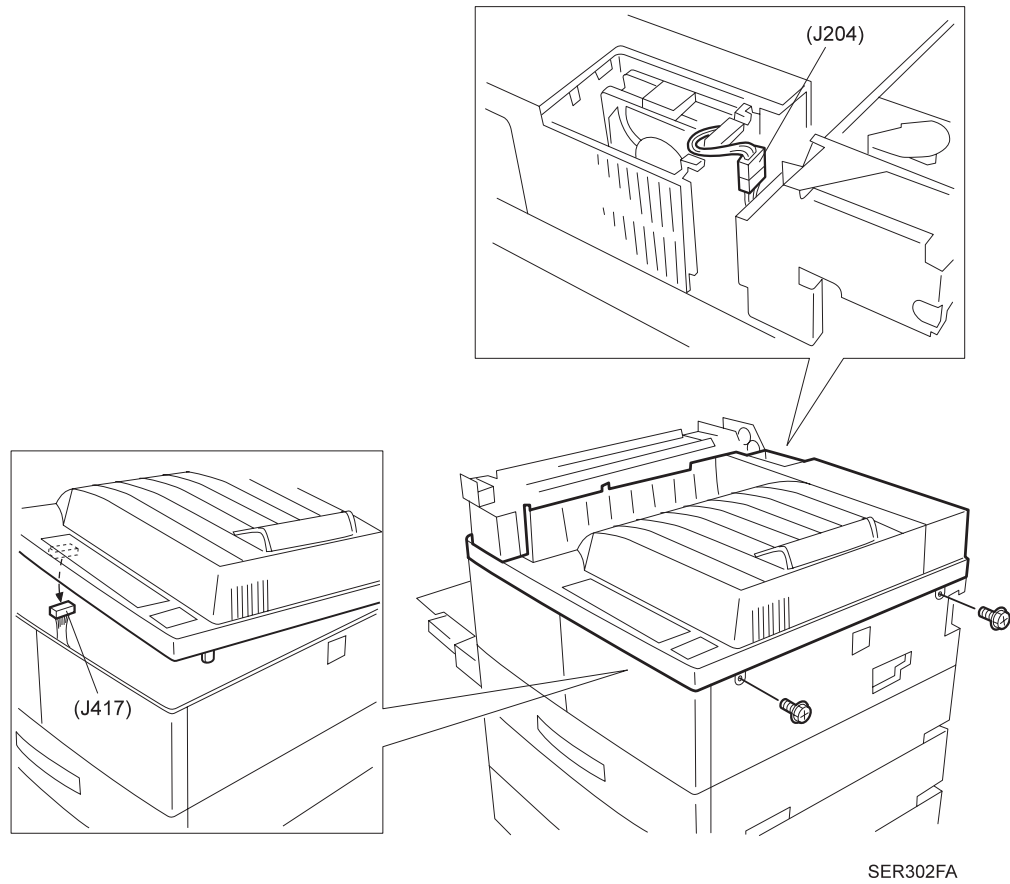
Removal

1. Remove the Mailbox or the HCS if either are installed.
2. Open the Duplex Unit if one is installed.
3. Open the Left Upper Cover Assembly and remove the screw securing the Fuser Cover to the frame (Figure 1).
4. Open the Front Left Cover and remove the screw securing the Fuser Cover to the frame (Figure 1).
5. Lift the Fuser Cover off of the Top Cover Assembly.

Replacement

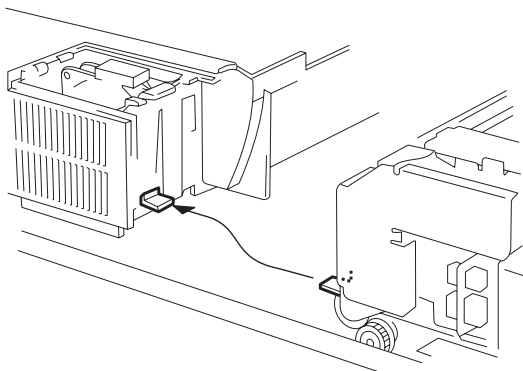
1. Open the Duplex Unit if one is installed.
2. Open the Left Upper Cover.
3. Slide the tabs that are located at both ends of the Cover into the corresponding openings in the Top Cover Assembly (Figure 2).
4. Lower the Fuser Full Cover onto the Fuser Assembly.
5. Press the Fuser Full Cover into place.
Make sure the tabs remain in place, the Fuser Full Cover meshes smoothly with the Top Cover, and the two screw holes in the Fuser Full Cover line up with the holes in the printer frame.
6. Use two screws to secure the Fuser Full Cover.

RRP 1.2 Top Cover Assembly (PL1.1)



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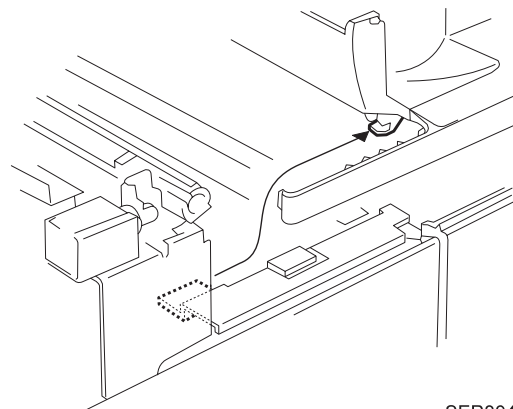
Figure 1



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SER303FA

Figure 2



SER304FA

SER304FA

Figure 3

RRP 1.2 Top Cover Assembly (PL1.1)

Removal

1. Unplug the AC Power Cord from the rear of the printer.
2. Remove the Fuser Full Cover (RRP 1.1).
3. Disconnect J204 from the Fuser Fan.
4. Remove the two screws securing the right side of the Top Cover Assembly to the Right Cover (Figure 1).
5. Carefully lift the Top Cover a few inches off of the printer frame.
6. Disconnect the J417 from the Control Panel, and lift the Top Cover Assembly off of the printer frame.

Replacement

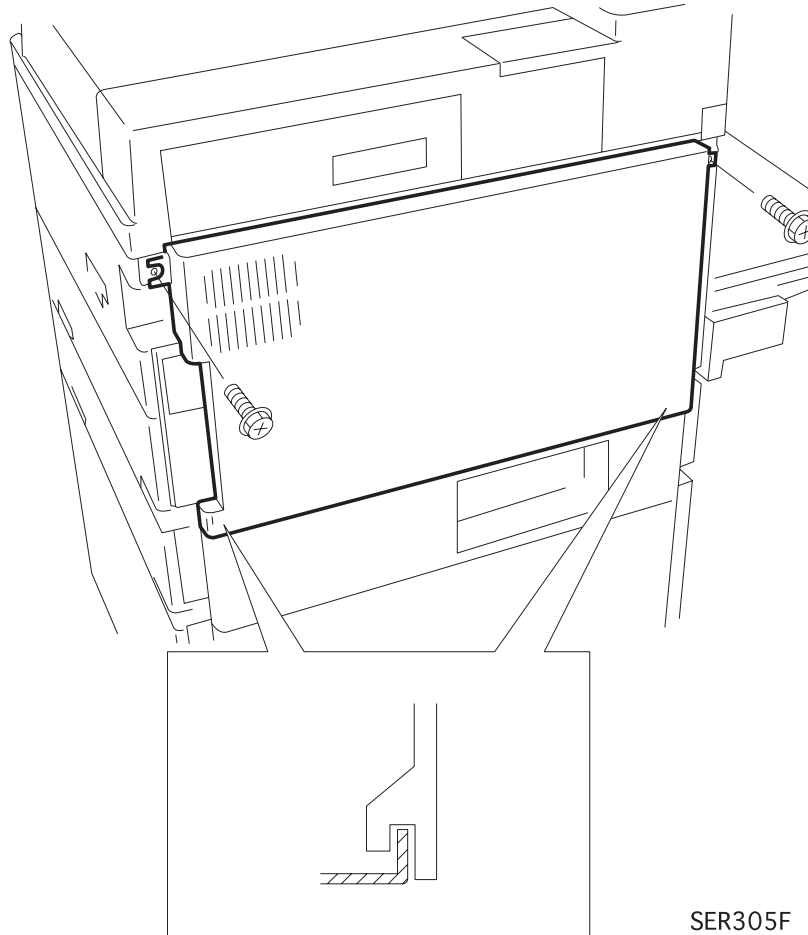
1. Unplug the AC Power Cord from the rear of the printer.



Do not reinstall the Top Cover while the AC Power Cord is connected to the printer. While reinstalling the Top Cover you may accidentally switch on the Main Power Switch.

2. Reconnect J417 to the Control Panel.
3. Reinstall the Top Cover Assembly onto the printer frame.
Make sure the screw holes at the right side of the Top Cover line up with the screw holes in the printer frame, and the left end of the Cover is under the Exit Chute Pinch Rolls.
4. Use two screws to secure the Top Cover Assembly to the Right Cover.
5. REconnect J204 to the Fuser Fan.
6. Reinstall the Fuser Full Cover (RRP 1.1).

RRP 1.3 Rear Cover Assembly (PL1.3)



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RRP 1.3 Rear Cover Assembly (PL1.3)

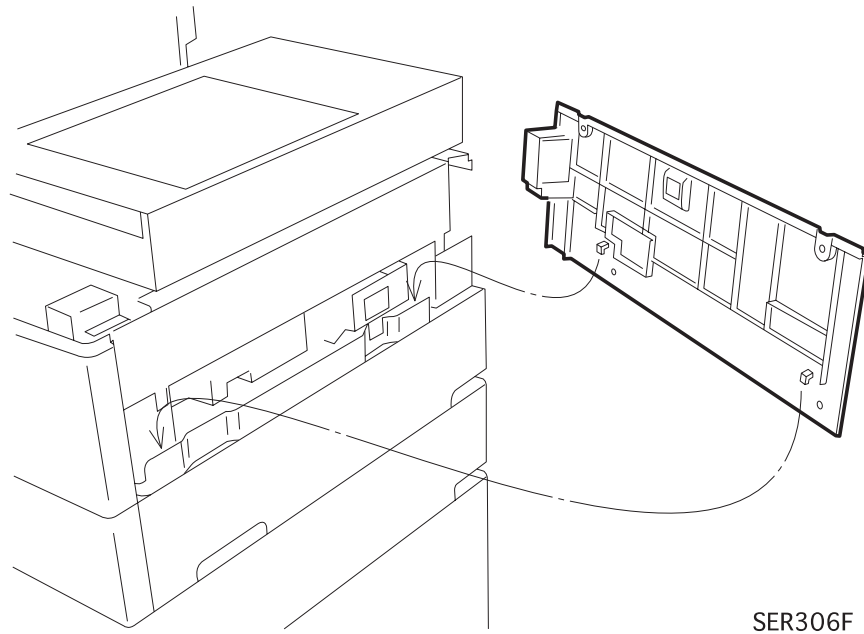
Removal

1. Remove the AC power cord from the rear of the printer.
2. Remove the two screws securing the Rear Cover Assembly to the printer frame.
3. Pull the bottom of the Rear Cover away from the printer frame and slide the Cover down to remove it.

Replacement

1. Slide the top edge of the Rear Cover under the edge of the Top Cover, then press the Rear Cover against the printer frame.
2. Slide the Cover down so the bottom edge catches the lip of the printer frame.
3. Use two screws to secure the Rear Cover Assembly to the printer frame.
4. Reconnect the AC power cord to the rear of the printer.

RRP 1.4 Right Cover (PL1.3)



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RRP 1.4 Right Cover (PL1.3)

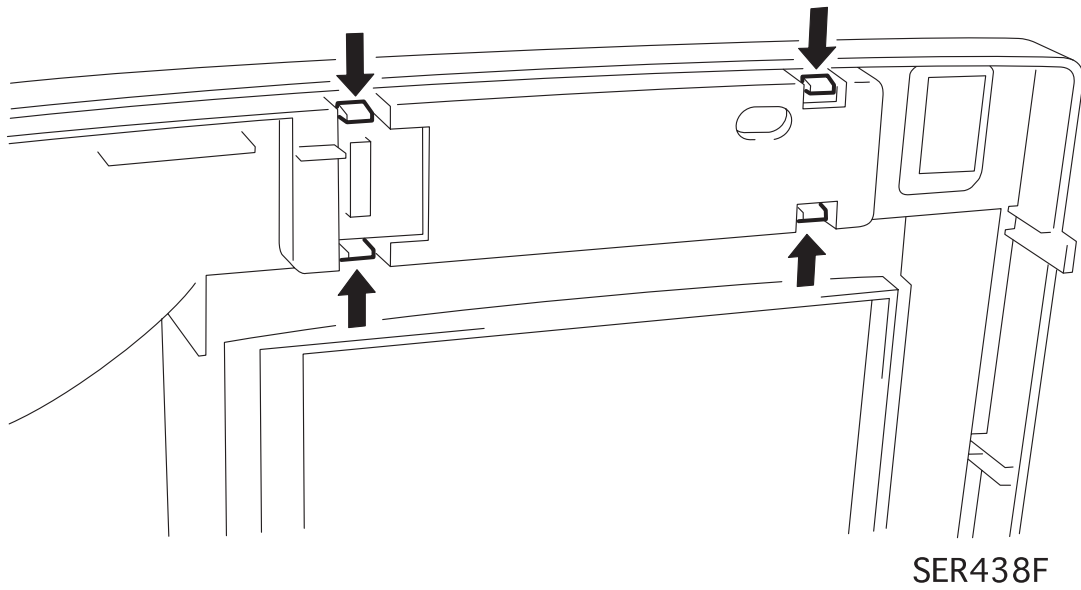
Removal

1. Remove the two screws securing the Top Cover to the Right Cover.
2. Carefully raise the right end of the Top Cover and at the same time lift the Right Cover up and away from the printer frame.

Replacement

1. Raise the right end of the Top Cover.
2. Press the Right Cover against the printer frame and slide the Cover down until the two hooks at the bottom lip of the Cover are hooked in place under the Tray 1 Cover.
3. Press the top of the Right Cover against the printer frame while you lower the Top Cover.
Make sure the Top Cover screw tabs rest on top of the Right Cover.
4. Use two screws to secure the Right Cover (and Top Cover) to the printer frame.

RRP 1.5 Control Panel (PL1.1)



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RRP 1.5 Control Panel (PL1.1)

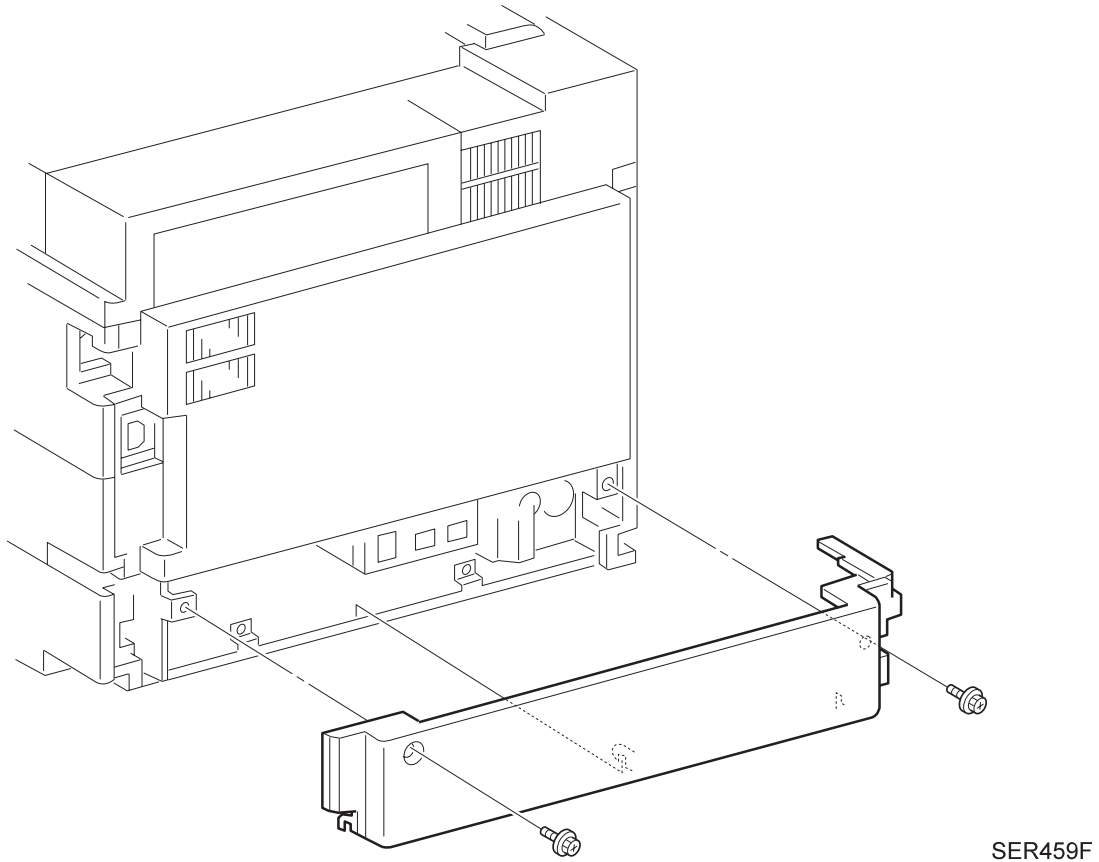
Removal

1. Remove the Top Cover (RRP 1.2).
2. Disconnect the J417 from the Control Panel.
3. Push in on the four tabs securing the Control Panel to the Top Cover, while you press the Control Panel out of the Cover.

Replacement

1. Position the Control Panel over the opening in the Top Cover Assembly, and press the Panel into the opening.
The Panel snaps into place.
2. Reconnect J417.
3. Reinstall the Top Cover (RRP 1.2).

RRP 1.6 Rear Cover 1TM (PL1.3)



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RRP 1.6 Rear Cover 1TM (PL1.3)

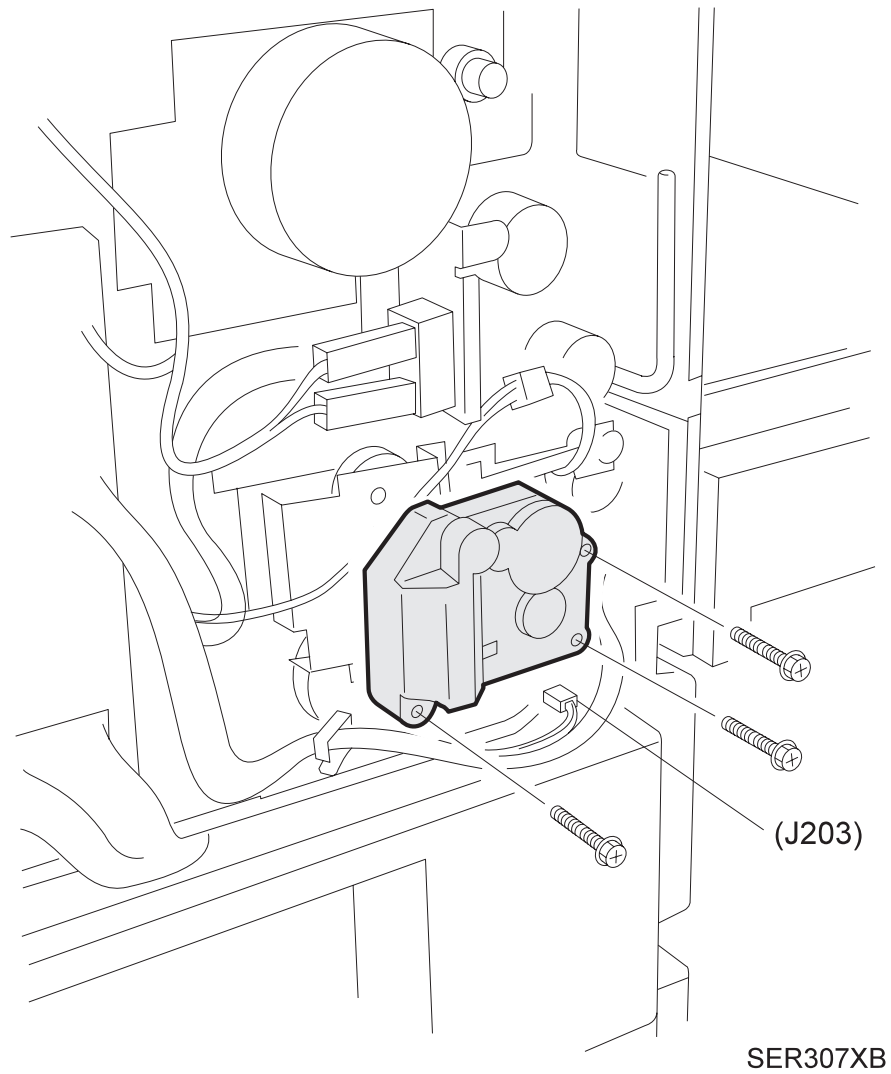
Removal

1. Disconnect all option plugs from the Plug Jack located at the rear of the printer.
2. Remove the two screws securing the Rear Cover 1TM to the printer frame.
3. Lift up on the Cover and remove it from the printer frame.

Replacement

1. Reinstall the Rear Cover 1TM by first hooking the bottom edge of the Cover onto the frame, then pressing the top of the Cover against the frame.
2. Use two screws to secure the Cover to the printer frame.
3. Reconnect the option plugs to the Plug Jack located at the rear of the printer.

RRP 2.1 Tray 1 Lift Up Motor (PL3.1)



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RRP 2.1 Tray 1 Lift Up Motor (PL3.1)

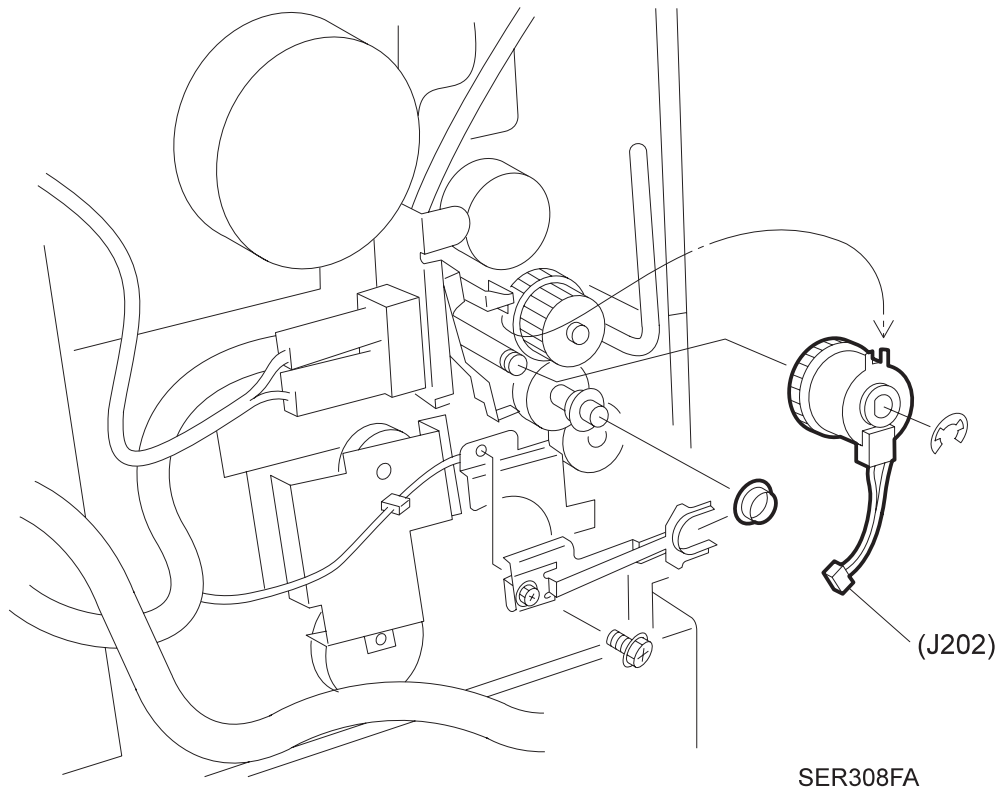
Removal

1. Slide Tray 1 halfway out of the printer.
2. Remove the Rear Cover (RRP 1.3).
3. Disconnect the J203 from the rear of Tray 1 Lift Up Motor.
4. Remove the three long screws securing the Motor to the printer frame.
5. Slide the Motor out to remove it.

Replacement

1. Reinstall the Lift Up Motor onto the printer frame.
Be careful not to trap any wires between the Motor and the frame.
2. Use three long screws to secure the Motor to the frame.
Use one screw on the lower left and two screws on the right side of the Motor.
3. Reconnect J203 to the rear of the Lift Up Motor.
4. Reinstall the Rear Cover (RRP 1.3).
5. Slide Tray 1 into the printer.

RRP 2.2 Tray 1 Feed Clutch (PL3.2)



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RRP 2.2 Tray 1 Feed Clutch (PL3.2)

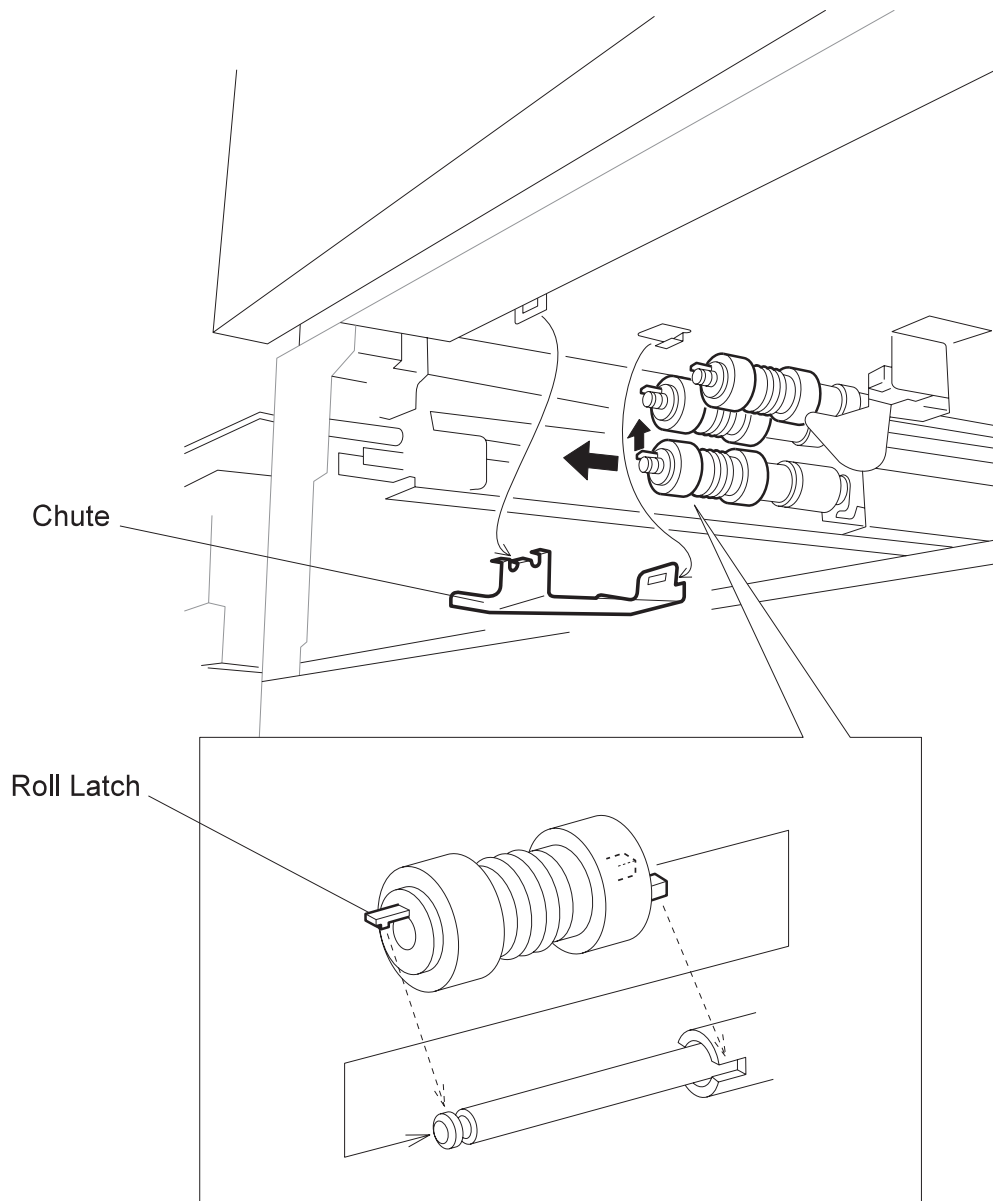
Removal

1. Remove the Rear Cover (RRP 1.3).
2. Open the Duplex Unit.
3. Open the Left Upper Cover.
4. Disconnect J202 from the Tray 1 Feed Clutch.
5. Remove the E ring that is securing the Feed Clutch to the shaft.
6. Slide the Feed Clutch away from the printer frame, then rotate the Clutch until you have enough clearance from the Support Spring to slide the Clutch completely off of the shaft.

Replacement

1. Position the Feed Clutch over the end of the Feed Shaft.
2. Reposition the Feed Clutch so it fits the key notch on the shaft and you can feel the Clutch slide onto the shaft, and press the Clutch onto the shaft until the Clutch P/J clears the Support Spring.
3. Rotate the Clutch until the slot in the Clutch lines up with the key on the frame.
4. Press the Clutch onto the shaft until it stops, and make sure the key on the frame is in the slot in the Clutch.
5. Use an E ring to secure the Clutch to the shaft.
6. Reconnect J202 to the Feed Clutch.
7. Reinstall the Rear Cover (RRP 1.3).

RRP 2.3 Feed, Nudger, and Retard Rolls (PL3.2 ~ 3.6)



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RRP 2.3 Feed, Nudger, and Retard Rolls (PL3.2 ~ 3.6)

NOTE

Use this procedure for Feeders 1 and 2.

Replace the Feeder, Nudger, and Retard Rolls as a unit.

Removal

1. Remove the paper tray from the appropriate feeder.
2. Press in on the front of the Chute, and remove the Chute.
3. Pull out on the Roll latch and slide the Roll off of the shaft.
4. Repeat step 3 for the remaining two Rolls.

Replacement

1. Position the Roll with the latch end facing out, and slide the Roll onto the shaft.
2. Rotate and push the Roll down the shaft until the latch locks the Roll into place.
3. Repeat steps 1 and 2 for the remaining two Rolls.
4. Reinstall the Chute by sliding the opening in the rear of the Chute into the tab on the frame, then slightly squeezing the Chute and hooking the tab at the front of the Chute into the opening on the frame.
5. Reinstall the paper tray.
6. Reset the Paper Feeder Usage Log for the feeder with the new Rolls.
 - a. Enter Diagnostics.
 - b. Enter either 30-6 (Tray 1), 30-7 (Tray 2).
 - c. Press [4] to view the log.
 - d. Use the Control Panel keys to set each digit of the displayed log number to 0.
 - e. Exit Diagnostics.

RRP 2.4 Tray 1 Take Away Roll Assembly (PL3.3)

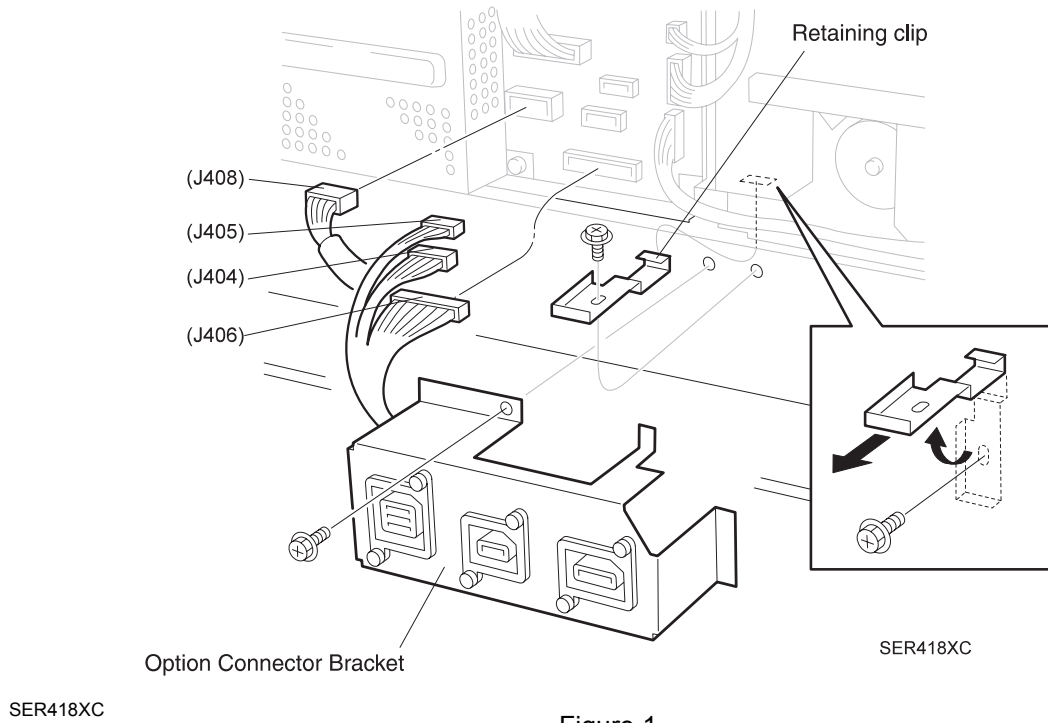


Figure 1

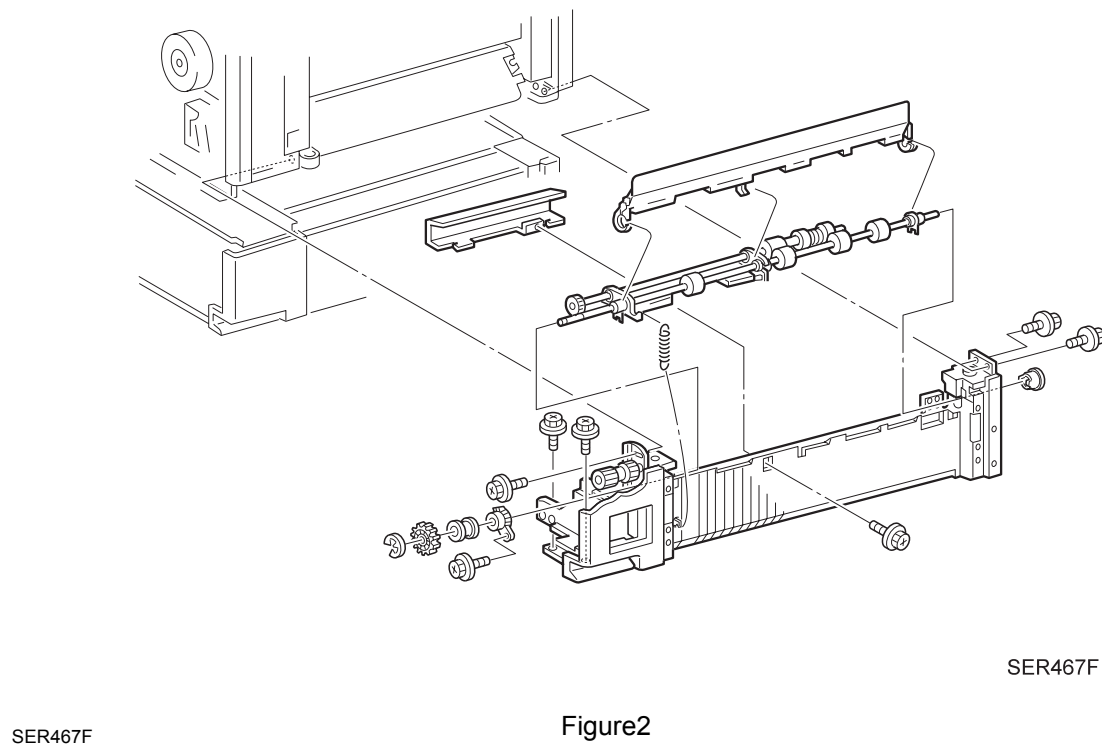


Figure2

RRP 2.4 Tray 1 Take Away Roll Assembly (PL3.3)

Removal

1. Remove the Duplex Unit, if one is installed (RRP 12.1).
2. Remove the EP Cartridge (RRP 5.2).
3. Remove Tray 1 and Tray 2.
4. Remove the Left Upper Cover Assembly (RRP 4.2).
5. Remove the Rear Cover Assembly (RRP 1.3).
6. Remove the MSI Support Assembly (RRP 3.3).
7. Remove the retaining clip from the docking stud that is located at the lower right of the Tray, and remove the stud.
8. Remove the screw securing the docking clip to Tray 2, and remove the clip.
9. Disconnect P403, P404, P406, and P408 from the MCU PWB.
10. Remove the screw securing the Option Connector Bracket the frame, and remove the Bracket.
11. Remove the screw securing the retaining clip that is located under the Option Connector Bracket, and remove the clip (Figure 1).
12. Remove Tray 1 Lift Motor (RRP 2.1).



The following step has you lift the printer. The printer is very heavy and requires two people to lift it. Do not attempt to lift the printer by yourself.

13. Lift the printer off of Tray 2.
14. Set the printer, with the right side down, on a level and stable work surface.
15. Remove the Support Assembly Spring (RRP 2.6).
16. Remove Tray 1 Feed Clutch, along with the Gear and Bearing, (RRP 2.2).
17. Remove the four screws securing Tray 1 Take Away Roll Assembly to the rear of the frame.
18. Remove the two screws securing Tray 1 Take Away Roll Assembly to the front of the frame.
19. Locate the two plastic mounting pins, located at each end of the Assembly, that secure the top of the Assembly to the bottom of the printer frame.
20. Press the two plastic mounting pins out of the mounting holes, and pull Tray 1 Take Away Assembly away from the printer.

RRP 2.4 Tray 1 Take Away Roll (PL3.3) continued

RRP 2.4 Tray 1 Take Away Roll Assembly (PL3.3) continued

Replacement

1. Reinstall Tray 1 Take Away Roll Assembly onto the bottom of the printer frame.
2. Align the two plastic mounting pins, located on the top of the Assembly, with the two mounting holes located in the bottom of the printer frame.
3. Press the Assembly into the frame so the mounting pins snap into the holes.
4. Use two screws to secure the front of the Assembly to the printer frame.
5. Use four screws to secure the rear of the Assembly to the printer frame.
6. Reinstall Tray 1 Feed Clutch, along with the Gear and Bearing, (RRP 2.2).
7. Reinstall the Support Assembly Spring (RRP 2.6).



The following step has you lift the printer. The printer is very heavy and requires two people to lift it. Do not attempt to lift the printer by yourself.

8. Set the printer onto Tray 2.
9. Reinstall Tray 1 Lift Motor (RRP 2.1).
10. Reinstall the retaining clip that is located under the Option Connector Bracket, and use one screw to secure the clip (Figure 1).
11. Reinstall the Option Connector Bracket to the frame, and use one screw to secure the Bracket.
12. Reconnect P403, P404, P406, and P408 to the MCU PWB.
13. Reinstall the docking clip to Tray 2, and use one screw to secure the clip.
14. Reinstall the docking stud located at the lower right of the Tray, and use a retaining clip to secure the stud.
15. Reinstall the MSI Support Assembly (RRP 3.3).
16. Reinstall the Rear Cover Assembly (RRP 1.3).
17. Reinstall the Left Upper Cover Assembly (RRP 4.2).
18. Reinstall Tray 1 and Tray 2.
19. Reinstall the EP Cartridge (rRP 5.2).
20. Reinstall the Duplex Unit, if one was installed (RRP 12.1).

RRP 2.5 Tray 1 Feeder Assembly (PL3.2)

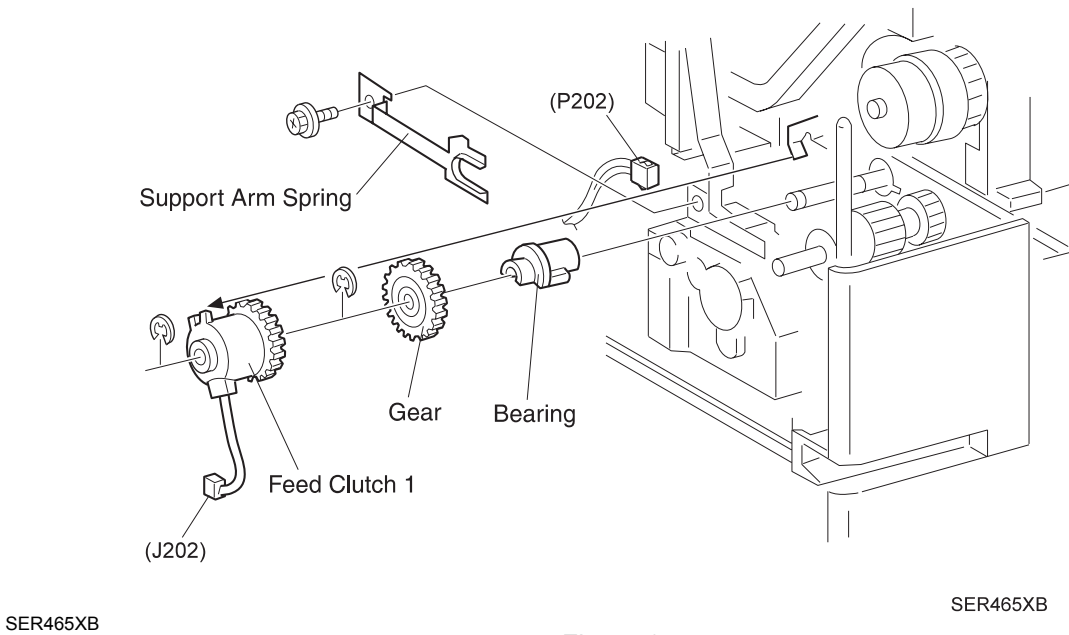


Figure 1

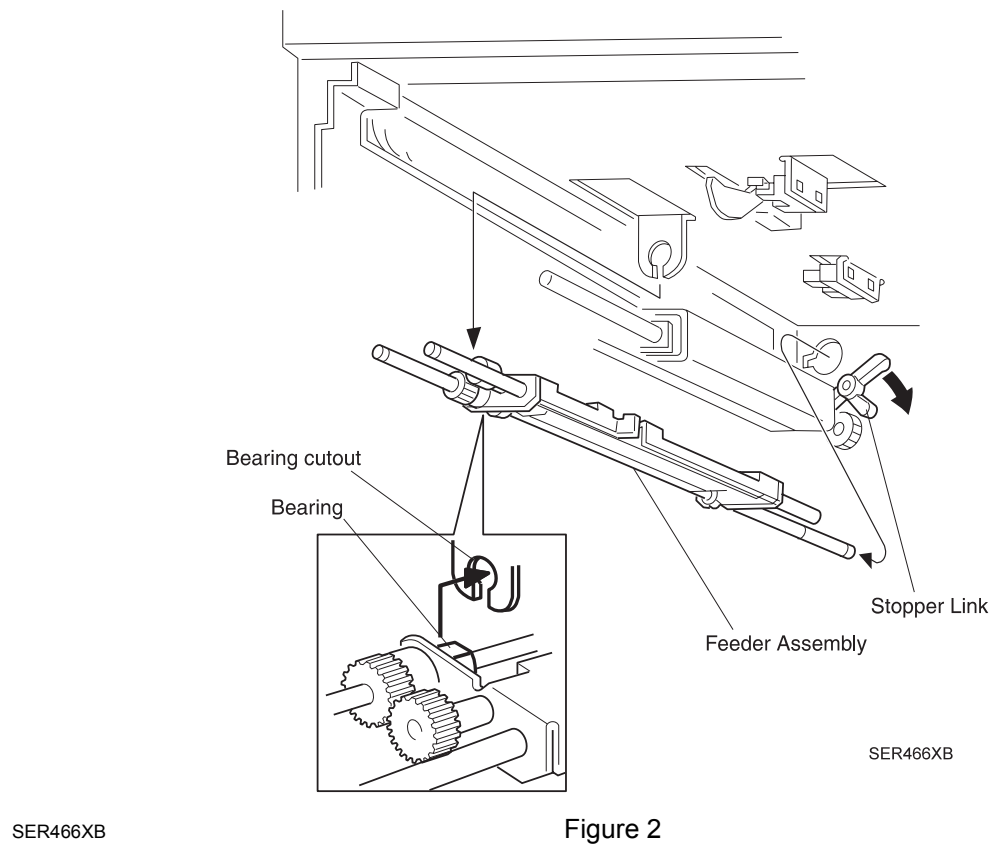


Figure 2

RRP 2.5 Tray 1 Feeder Assembly (PL3.2)



Take care not to break or dislodge the No Paper Actuator when removing or replacing the Tray 1 Feeder Assembly.

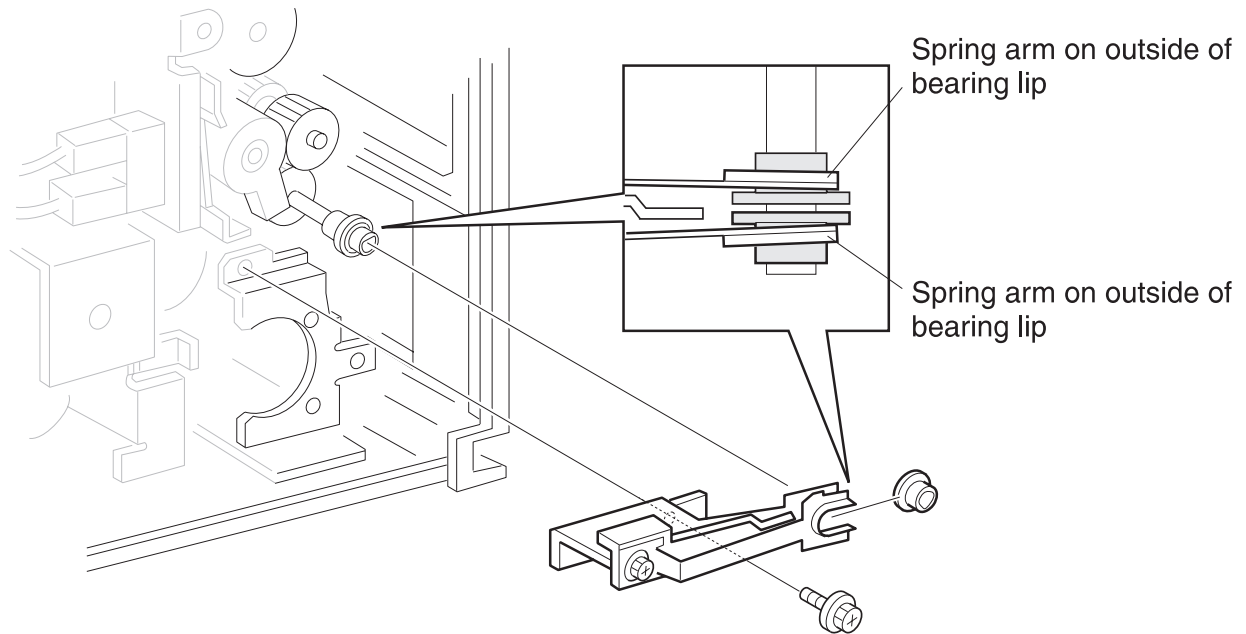
Removal

1. Tray 1 from the printer.
2. Remove the Rear Cover (RRP 1.3).
3. Remove the Front Chute (RRP 2.8).
4. Remove Tray 1 Feed Clutch (RRP 2.2) along with the Feed Gear and Bearing. (Refer to the figure).
5. Remove the E ring that is securing the Feed Gear (located behind the Feed Clutch) to the shaft, and remove the Feed Gear and Bearing.
6. Hold down the Stopper Link while you pull the Feeder Assembly to the front of the printer frame.
7. Remove the Feeder Assembly from Feeder 1.

Replacement

1. Hold down the Stopper Link while you insert the end of the Feed Shaft into the opening in the rear of the printer frame.
2. Slide the Bearing into the Bearing cutout (refer to the figure).
3. When both the Bearing is in place and the end of the Feed Shaft is through the opening in the rear of the frame, release the Stopper Link.
4. The Nudger Shaft should rest on top of the Stopper Link, and the Link should secure the Feeder Assembly in place on the frame.
5. Make sure the Paper Level Actuator tab on the Feeder is positioned in the center of the arms of the Paper Level Sensor.
6. Slide the Feed Bearing onto the Feed Shaft and press the Bearing into the cutout in the frame.
7. Reinstall the Feed Gear onto the Feed Shaft, and use an E ring to secure it to the Shaft.
8. Reinstall Tray 1 Feed Clutch (RRP 2.2) along with the Feed Gear and Bearing.
9. Reinstall the Front Chute (RRP 2.8).
10. Reinstall the Rear Cover (RRP 1.3).
11. Reinstall Tray 1.

RRP 2.6 Support Assembly Spring (PL3.3)



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RRP 2.6 Support Assembly Spring (PL3.3)

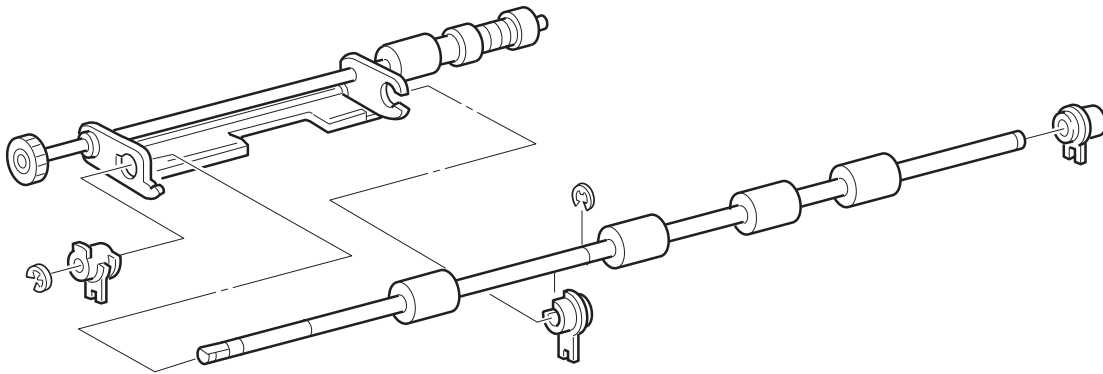
Removal

1. Remove Tray 1 Lift Up Motor (RRP 2.1).
2. Remove the screw securing the Support Assembly Spring to the printer frame, and remove the Spring.

Replacement

1. Reinstall the Support Assembly Spring. (Refer to the figure for correct positioning).
Make sure the front and rear arms of the Spring are positioned as shown in the figure.
2. Use one screw to secure the Spring to the frame.
3. Reinstall Tray 1 Lift Up Motor (RRP 2.1).

RRP 2.7 Tray 1 Retard Assembly (PL3.3)



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RRP 2.7 Tray 1 Retard Assembly (PL3.3)

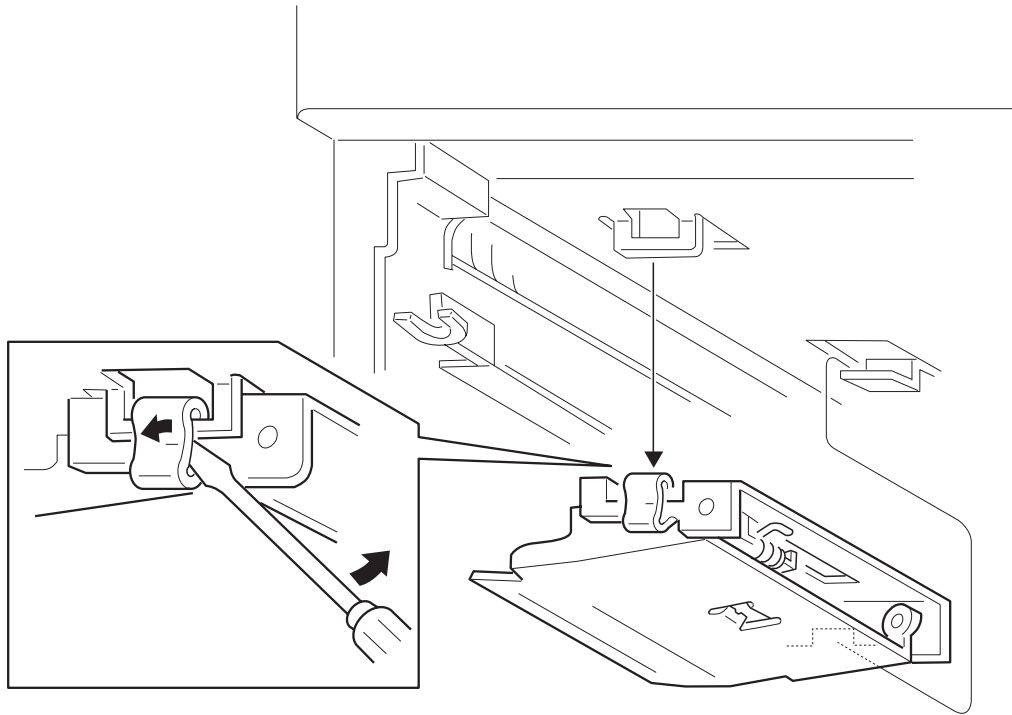
Removal

1. Remove Tray 1 Take Away Roll Assembly (RRP 2.4).
2. Remove the Left Middle Cover (see RRP 3.12).
3. Remove the screw securing the Feed In Chute to the Assembly, and slide the Chute to the front of the Assembly to remove it.
4. Remove the plastic Feed Chute (PL 3.3.18) from the Take Away Roll.
5. Unhook the spring from the Retard Support.
6. Remove Tray 1 Support Assembly Spring (RRP 2.6).
7. Remove the screw securing the Gear Stopper (PL 3.3.12) to the Assembly, and move the Stopper out of the way.
8. Remove the E ring securing Gear 22/20 (PL 3.3.20) to the shaft and remove the Gear.
9. Remove the plastic bearing securing the Take Away Roll Shaft to the front of the Retard Frame, and remove the Retard Assembly and Take Away Roll.
10. Remove the E rings and Gears (PL3.3.10 ~ 12) attached to the rear of the Take Away Roll Shaft.
11. Remove the Center Bearing on the Take Away Roll Shaft, and slide the Roll out of the Retard Support.

Replacement

1. Reinstall the Take Away Roll Shaft onto the Retard Support.
2. Reinstall the Center Bearing onto the Take Away Roll Shaft, and secure the Shaft to the Support.
3. Reinstall the Gears (PL3.3.10 ~ 12) and E rings to the rear of the Take Away Roll Shaft.
4. Reinstall the Retard Assembly and Take Away Roll back into the Retard Frame.
5. Reinstall the plastic bearing into the hole at the front of the Retard Frame.
6. Reinstall Gear 22/20 to the rear of the shaft, and use an E ring to secure the Gear.
7. Align the screw hole in the Gear Stopper with the screw hole in the frame, and use one screw to secure the Stopper.
8. Reinstall the Tray 1 Support Assembly Spring (RRP 2.6).
9. Reattach the spring to the Retard Support.
10. Reinstall the plastic Feed Chute to the Take Away Roll.
11. Reinstall the Feed In Chute, and use one screw to secure it to the Assembly.
12. Reinstall the Left Middle Cover (see RRP 3.12).
13. Reinstall Tray 1 Take Away Roll Assembly (RRP 2.4).

RRP 2.8 Tray 1 & Tray 2 Front Chute Assemblies (PL3.1 & PL3.4)



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RRP 2.8 Tray 1 & Tray 2 Front Chute Assemblies (PL3.1 & PL3.4)

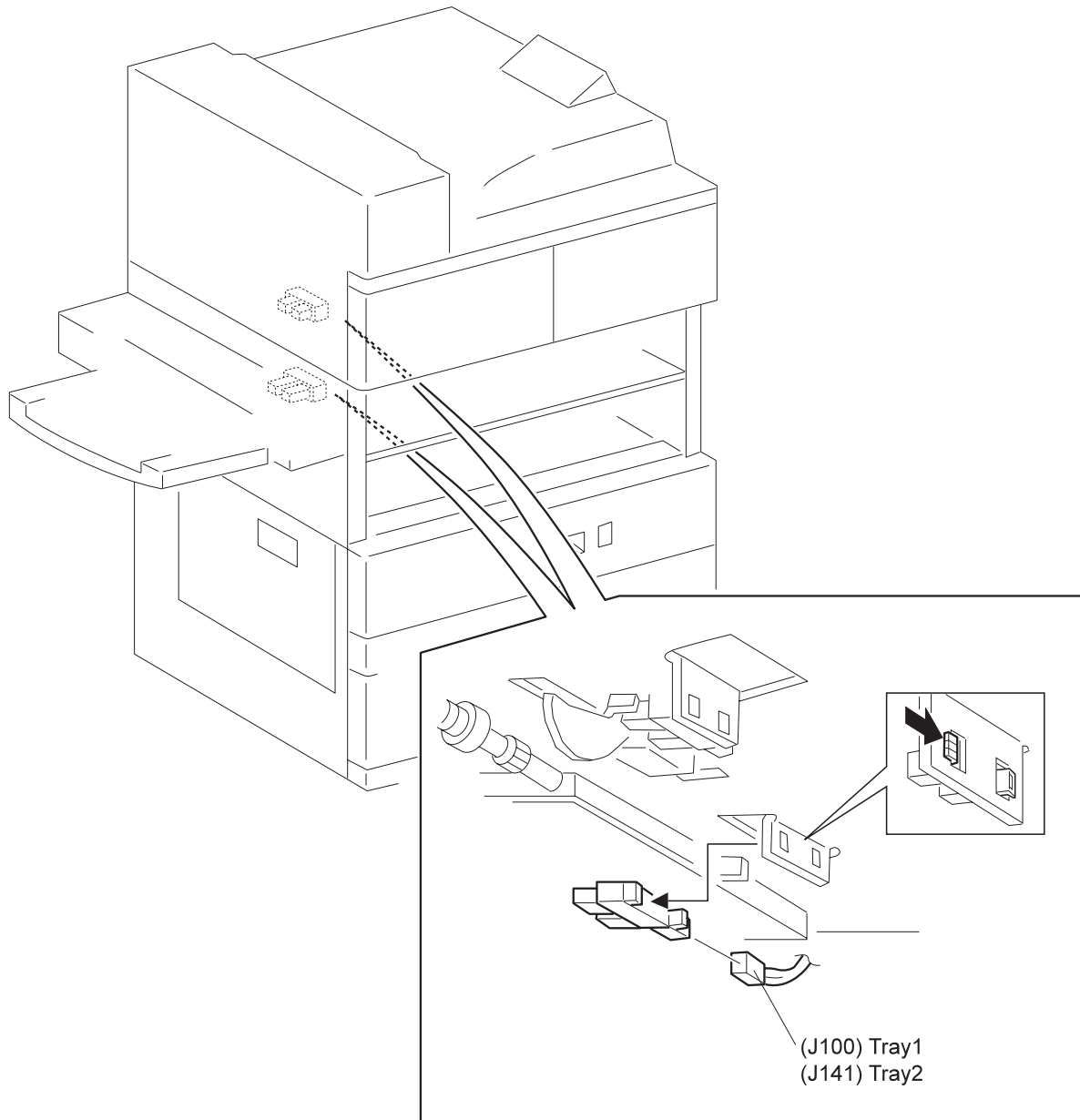
Removal

1. Remove either Paper Tray 1 or Paper Tray 2.
2. Use a flat blade screwdriver to unhook the front of the Chute, and remove the Chute.

Replacement

1. Remove either Paper Tray 1 or Paper Tray 2.
2. Reinstall the Chute by sliding the opening in the rear of the Chute into the tab on the printer frame, then hooking the tab at the front of the Chute into the opening on the frame.
3. Reinstall the Paper Tray.

RRP 2.9 Tray 1 & Tray 2 Level Sensors (PL3.1 & 3.4)



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RRP 2.9 Tray 1 & Tray 2 Level Sensors (PL3.1 & 3.4)

Use this procedure for removing and replacing the Paper Level Sensors for Trays 1 and 2.

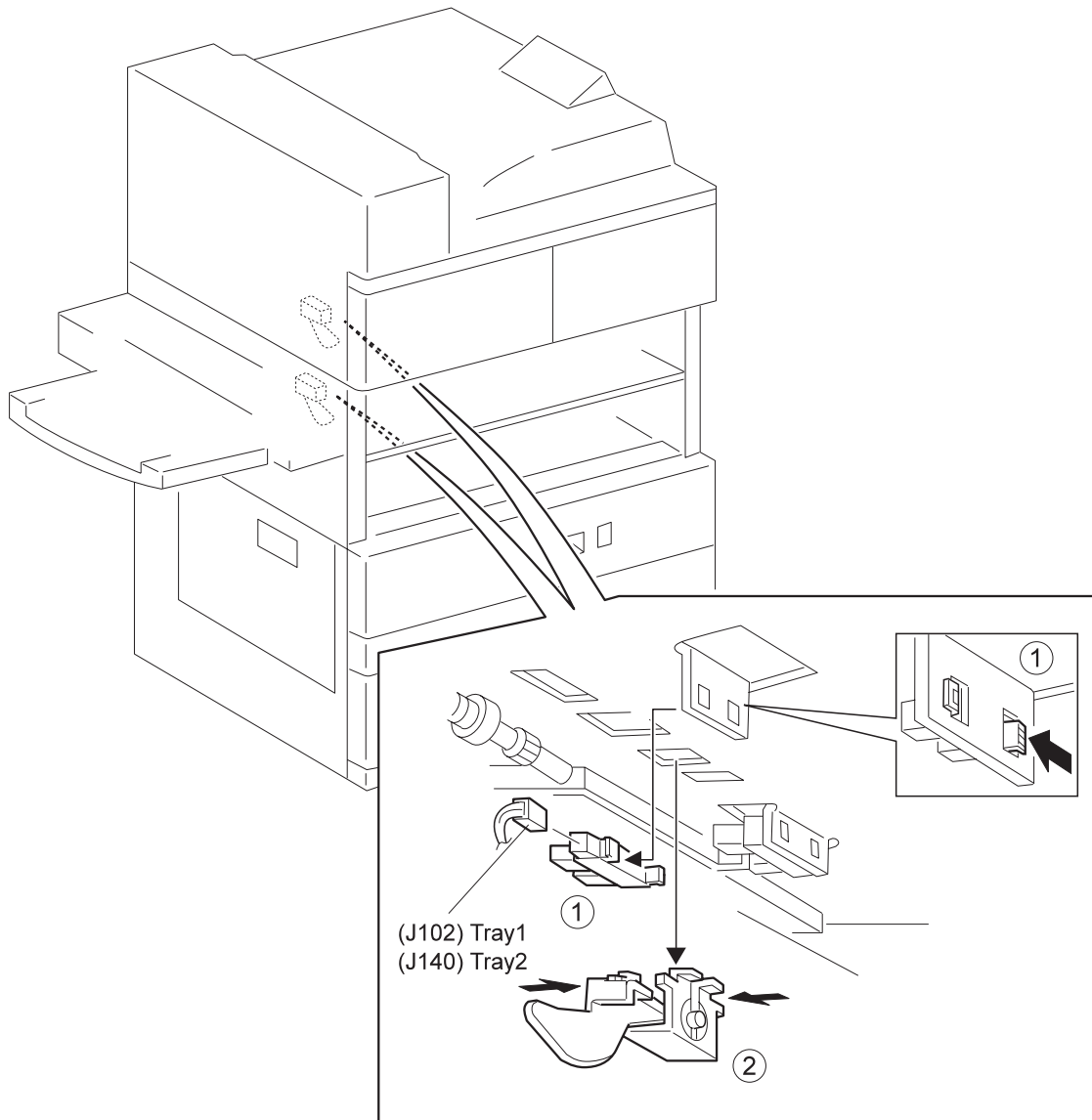
Removal

1. Remove the Paper Tray associated with the Paper Level Sensor you are going to remove.
2. Squeeze the Sensor latches and remove the Paper Level Sensor from the frame.
3. Disconnect the P/J from the Sensor.

Replacement

1. Reconnect the P/J to the Sensor.
2. Position the Sensor with the arms of the Sensor facing the Feed Assembly Actuator.
3. Reinstall the Paper Level Sensor into the slot in the frame by first inserting the front latch of the Sensor through the front opening in the frame.
4. Press in on the rear latch and inserting it into the rear opening.
5. Release the rear latch and the Sensor snaps into place.
6. Release the Actuator and make sure it moves freely between the arms of the Sensor.
7. Reconnect the P/J to the Sensor.
8. Reinstall the Paper Tray.

RRP 2.10 Tray 1 & Tray 2 No Paper Sensors (PL3.1 & PL3.4)



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RRP 2.10 Tray 1 & Tray 2 No Paper Sensors (PL3.1 & PL3.4)

Use this procedure for removing and replacing the No Paper Sensors for Trays 1 and 2.

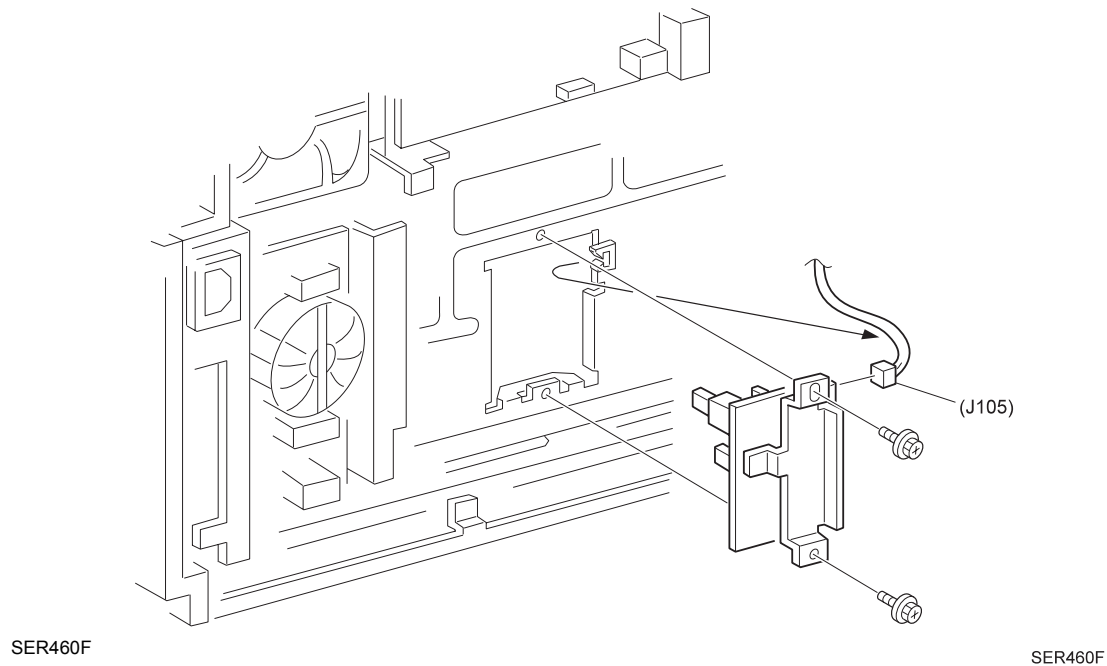
Removal

1. Remove the Paper Tray associated with the No Paper Sensor you are going to remove.
2. Squeeze the Sensor latches and remove the No Paper Sensor from the frame.
3. Disconnect the P/J from the Sensor.

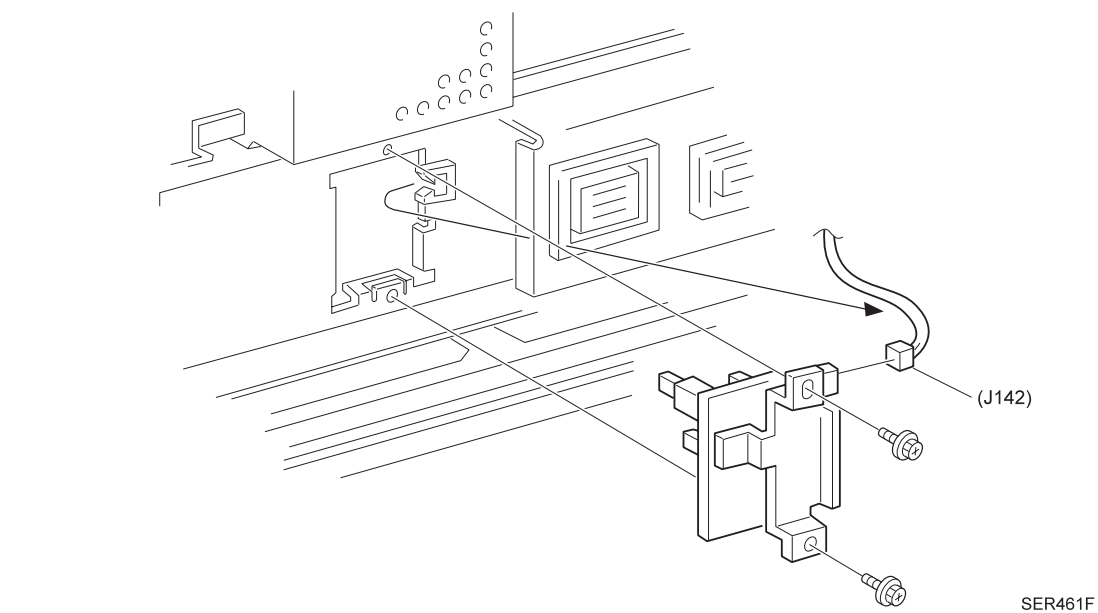
Replacement

1. Reconnect the P/J to the Sensor.
2. Push the No Paper Actuator up and out of the way.
3. Position the Sensor with the arms of the Sensor facing the Actuator.
4. Reinstall the No Paper Sensor into the slot in the frame by first inserting the front latch of the Sensor through the front opening in the frame.
5. Press in on the rear latch and inserting it into the rear opening.
6. Release the rear latch and the Sensor snaps into place.
7. Release the Actuator and make sure it moves freely between the arms of the Sensor.
8. Reconnect the P/J to the Sensor.
9. Reinstall the Paper Tray.

RRP 2.11 Tray 1 & Tray 2 Paper Size Sensors (PL3.1 & PL3.4)



Tray 1



Tray 2

RRP 2.11 Tray 1 & Tray 2 Paper Size Sensors (PL3.1 & PL3.4)

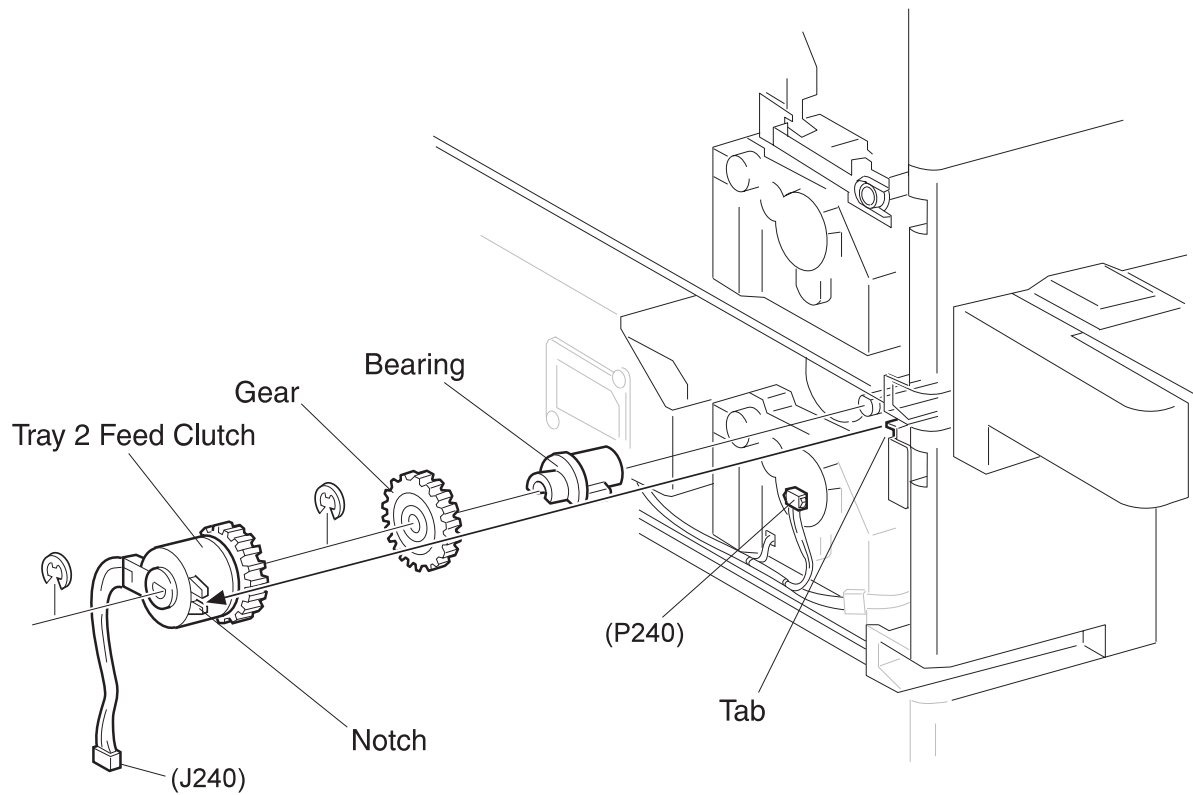
Removal

1. Remove either Paper Tray 1 or Paper Tray 2 from the printer.
2. Disconnect the P/J from the Size Sensor PWB.
3. Remove the screw securing the Size Sensor PWB to the printer frame, pull the PWB straight out and remove it from the frame.

Replacement

1. Remove either Paper Tray 1 or Paper Tray 2 from the printer.
2. Reinstall the Paper Size Sensor PWB onto the printer frame.
Align the positioning tabs and screw holes.
3. Reconnect the P/J to the Size Sensor PWB.
4. Use one screw to secure the PWB to the frame.
5. Reinstall the Paper Tray.

RRP 2.12 Tray 2 Feed Clutch (PL3.5)



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RRP 2.12 Tray 2 Feed Clutch (PL3.5)

Removal

1. Remove the Rear Cover ITM (RRP 1.6).
2. Disconnect J240 from the Feed Clutch.
3. Remove the E ring securing the Clutch to the shaft, and slide the Clutch off of the shaft.
4. Remove the E ring securing the Gear to the shaft, and slide the Gear and Bearing off of the shaft.

Replacement

1. Slide the Bearing onto the shaft, and seat it in the cutout in the printer frame.
2. Slide the Gear onto the shaft, and use an E ring to secure it to the shaft.
3. Slide the Feed Clutch onto the shaft, making sure the positioning notch on the shaft hooks onto the tab on the frame.
4. Use an E ring to secure the Clutch to the shaft.
5. Reconnect J240 to the Feed Clutch.
6. Reinstall the Rear Cover ITM (RRP 1.6).

RRP 2.13 Tray 2 Feeder Assembly (PL3.5)

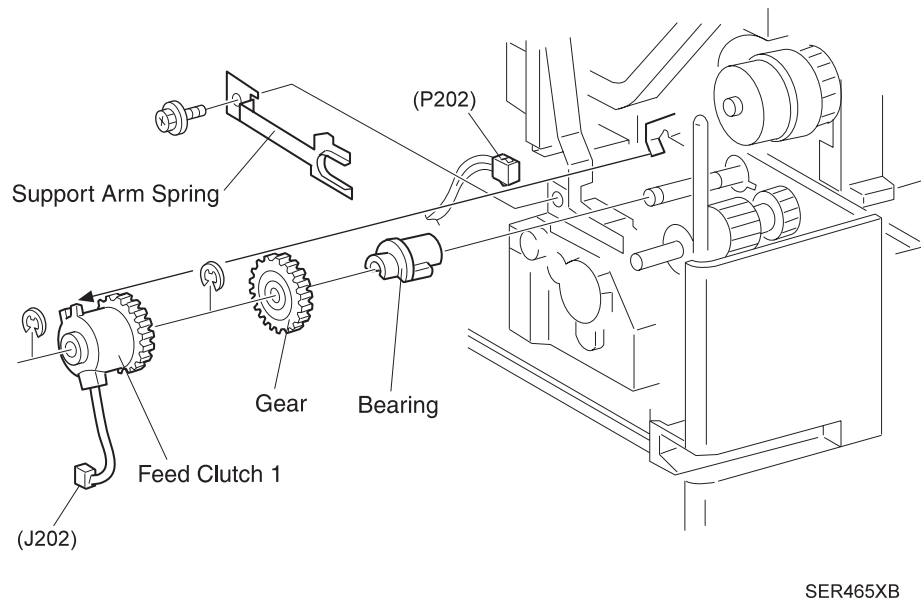


Figure 1

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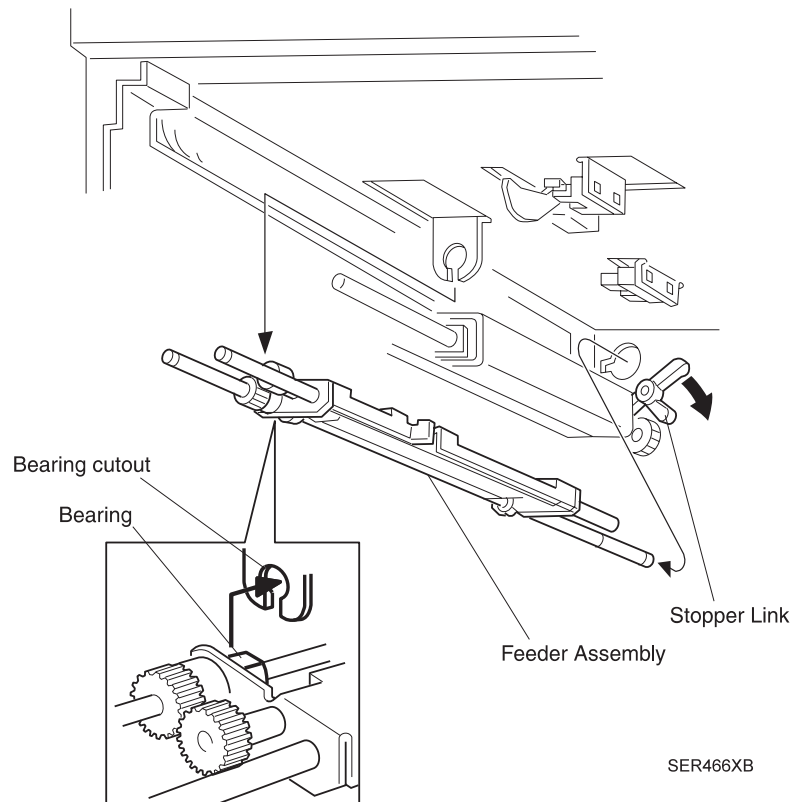


Figure 2

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RRP 2.13 Tray 2 Feeder Assembly (PL3.5)



Take care not to break or dislodge the No Paper Actuator when removing or replacing the Tray 2 Feeder Assembly.

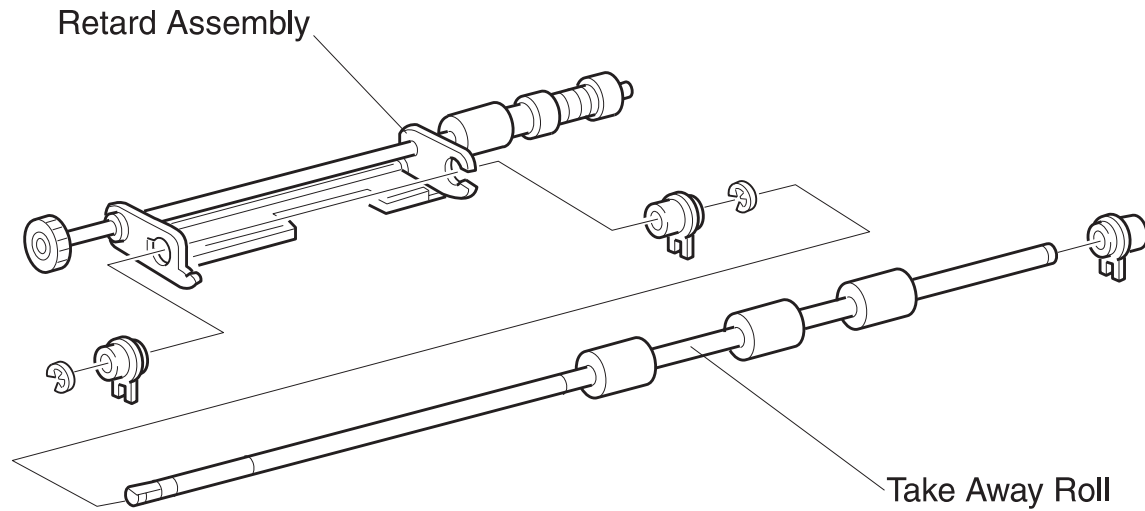
Removal

1. Tray 2 from the printer.
2. Remove the Rear Cover (RRP 1.3).
3. Remove the Front Chute (RRP 2.8).
4. Remove Tray 2 Feed Clutch (RRP 2.12) along with the Feed Gear and Bearing. (Refer to the figure).
5. Remove the E ring that is securing the Feed Gear (located behind the Feed Clutch) to the shaft, and remove the Feed Gear and Bearing.
6. Hold down the Stopper Link while you pull the Feeder Assembly to the front of the printer frame.
7. Remove the Feeder Assembly from Feeder 2.

Replacement

1. Hold down the Stopper Link while you insert the end of the Feed Shaft into the opening in the rear of the printer frame.
2. Slide the Bearing into the Bearing cutout (refer to the figure).
3. When both the Bearing is in place and the end of the Feed Shaft is through the opening in the rear of the frame, release the Stopper Link.
4. The Nudger Shaft should rest on top of the Stopper Link, and the Link should secure the Feeder Assembly in place on the frame.
5. Make sure the Paper Level Actuator tab on the Feeder is positioned in the center of the arms of the Paper Level Sensor.
6. Slide the Feed Bearing onto the Feed Shaft and press the Bearing into the cutout in the frame.
7. Reinstall the Feed Gear onto the Feed Shaft, and use an E ring to secure it to the Shaft.
8. Reinstall Tray 2 Feed Clutch (RRP 2.12) along with the Feed Gear and Bearing.
9. Reinstall the Front Chute (RRP 2.8).
10. Reinstall the Rear Cover (RRP 1.3).
11. Reinstall Tray 2.

RRP 2.14 Tray 2 Take Away Roll Assembly (PL3.6)



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RRP 2.14 Tray 2 Take Away Roll Assembly (PL3.6)

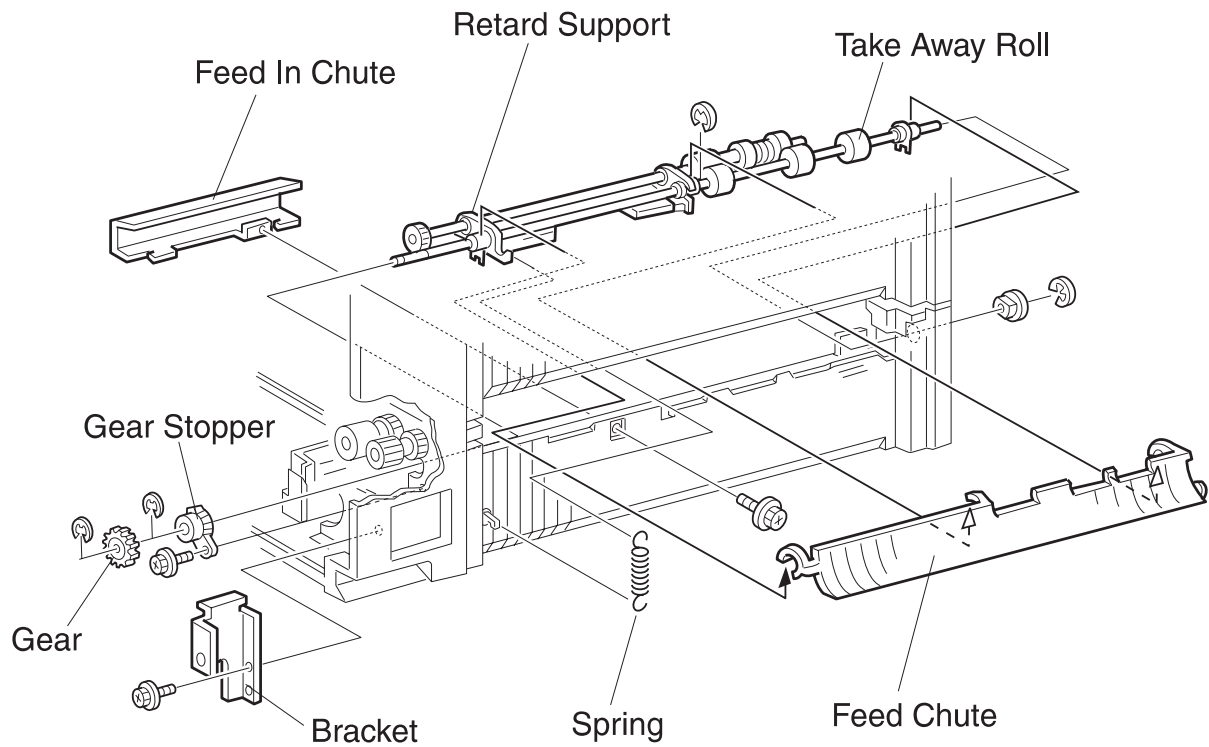
Removal

1. Remove Tray 2 Retard Assembly (RRP 2.15).
2. Remove the E rings and Gears attached to the rear of the Take Away Roll shaft.
3. Remove the Center Bearing on the Take Away Roll Shaft, and slide the Roll out of the Retard Support.

Replacement

1. Reinstall the Take Away Roll shaft onto the Retard Support.
2. Reinstall the Center Bearing onto the Take Away Roll shaft, and secure the shaft to the Support.
3. Reinstall the Gears and E rings to the rear of the Take Away Roll shaft.
4. Reinstall Tray 2 Retard Assembly (RRP 2.15).

RRP 2.15 Tray 2 Retard Assembly (PL3.6)



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RRP 2.15 Tray 2 Retard Assembly (PL3.6)

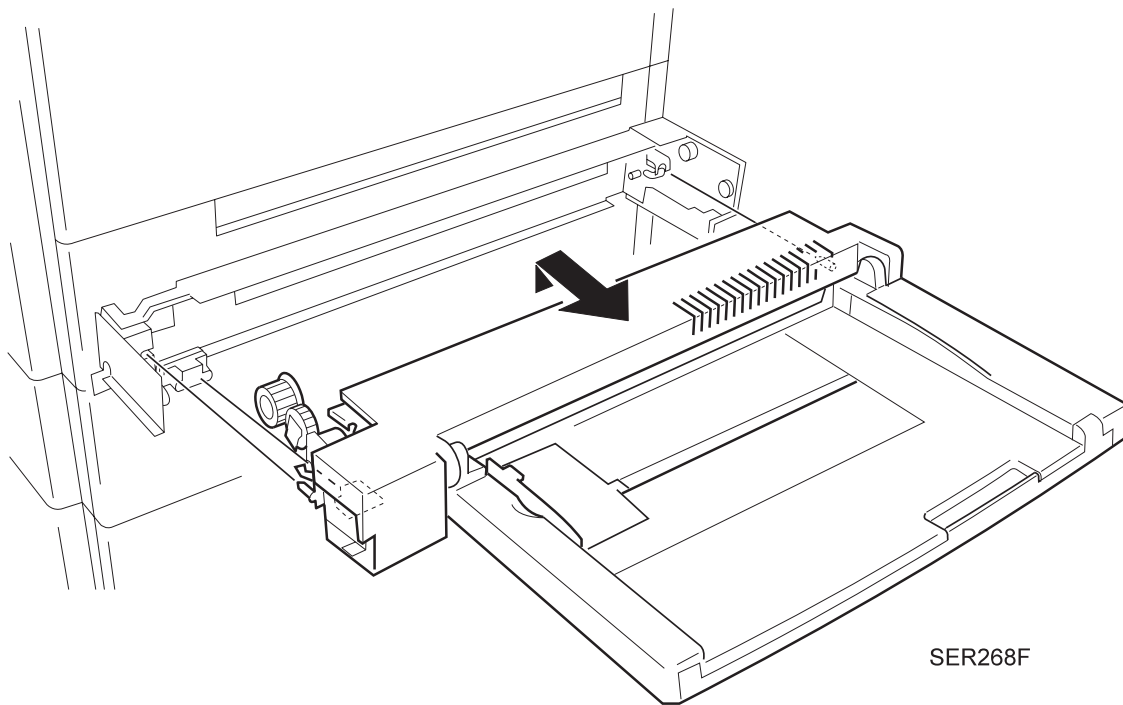
Removal

1. Open the Left Lower Cover.
2. Remove the screw securing the Feed In Chute to the Assembly, and slide the Chute to the front of the Assembly to remove it.
3. Remove the plastic Feed Chute from the Take Away Roll.
4. Unhook the spring from the Retard Support.
5. Remove the screw securing the Gear Stopper to the Assembly, and move the Stopper out of the way.
6. Remove the E ring securing Gear 22 to the shaft and remove the Gear.
7. Remove the plastic bearing securing the Take Away Roll Shaft to the front of the printer frame, and remove the Retard Assembly and attached Take Away Roll.
8. Remove the Take Away Roll (RRP 2.14).

Replacement

1. Reinstall the Take Away Roll Shaft onto the Retard Support (RRP 2.14).
2. Reinstall the Retard Assembly and Take Away Roll back into the printer frame.
3. Reinstall the plastic bearing into the hole at the front of the frame.
4. Reinstall Gear 22 to the rear of the shaft, and use an E ring to secure the Gear.
5. Align the screw hole in the Gear Stopper with the screw hole in the frame, and use one screw to secure the Stopper.
6. Reattach the spring to the Retard Support.
7. Reinstall the plastic Feed Chute to the Take Away Roll.
8. Reinstall the Feed In Chute, and use one screw to secure it to the Assembly.

RRP 3.1 MSI Feeder Assembly (PL4.2)



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RRP 3.1 MSI Feeder Assembly (PL4.2)

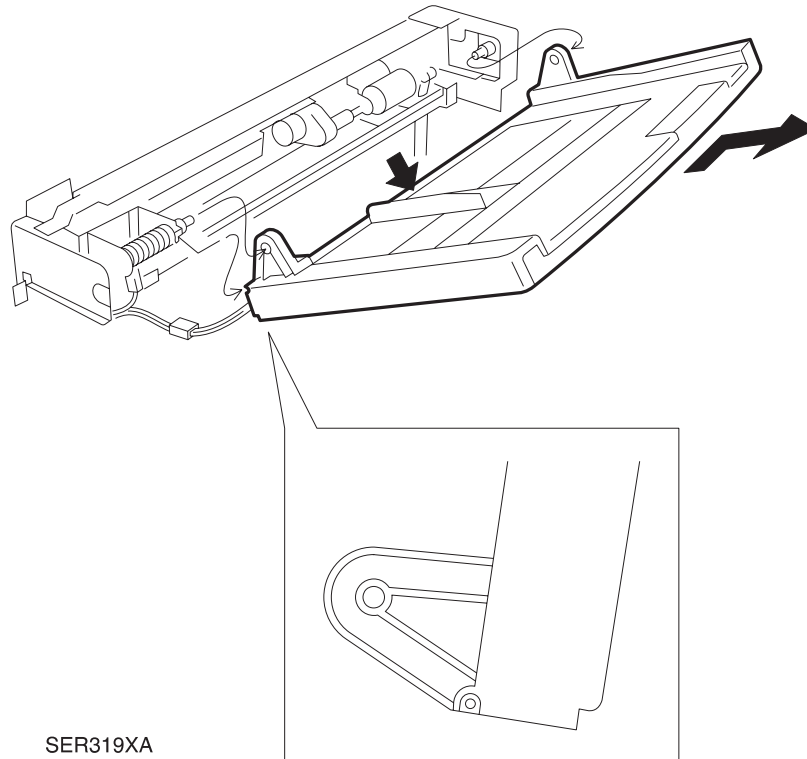
Removal

1. Face the left side of the printer.
2. Hold both sides of the MSI Feeder Assembly and firmly pull the Assembly toward you and out of the printer.

Replacement

1. Face the left side of the printer.
2. Position the MSI Feeder against the MSI Support.
3. Tilt the MSI Feeder so the Feed Gear slides through the cutout in the printer cover.
4. Hold the MSI Feeder Assembly level and push the Assembly against the printer.

RRP 3.2 MSI Tray Assembly (PL4.4)



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RRP 3.2 MSI Tray Assembly (PL4.4)

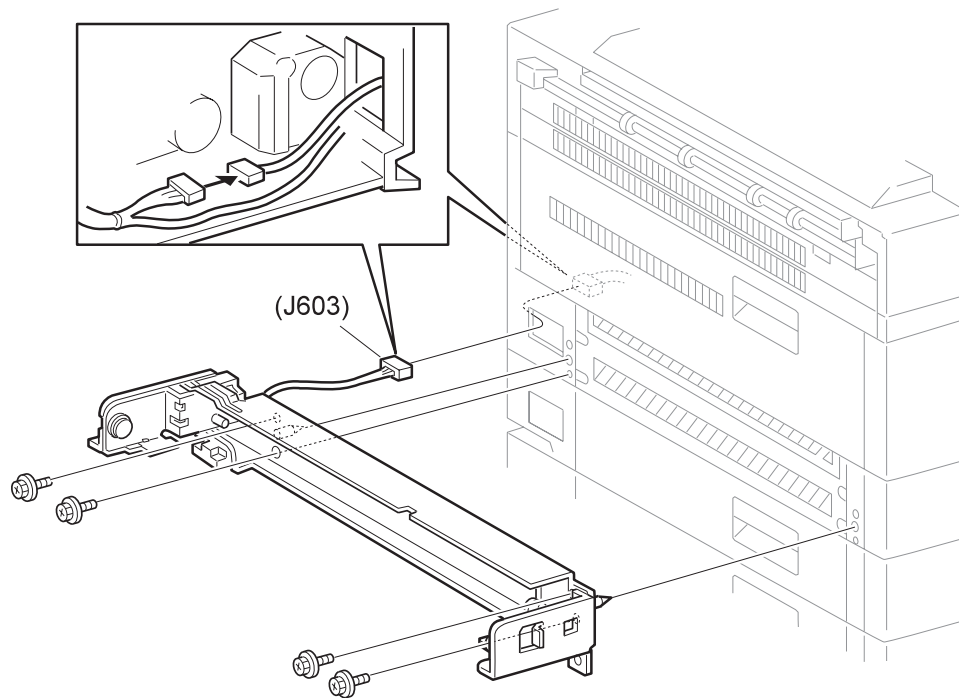
Removal

1. Remove the MSI Feeder Assembly (RRP 3.1).
2. Remove the two screws securing the MSI Top Cover to the MSI Assembly, and remove the Top Cover.
3. Disconnect the P/J that runs from the Tray Assembly to the Feeder Assembly.
4. Release the Tray Spring that is attached to the left side of the Tray.
5. Push out on the Front Support as you slightly bow the Tray, and release the pivot hole on the right side of the Tray from the metal shaft on the Front Support.
6. Remove the MSI Tray Assembly.

Replacement

1. Slide pivot hole on the left side of the Tray onto the metal shaft on the Rear Support.
2. Push out on the Front Support as you slightly bow the Tray, and slid the pivot hole on the right side of the Tray into the metal shaft on the Front Support.
3. Insert the free end of the Tray Spring into the slot at the bottom edge of the Tray.
4. Reconnect the P/J that runs from the Tray Assembly to the Feeder Assembly.
5. Reinstall the MSI Top Cover and use two screws to secure it to the MSI Assembly.
6. Reinstall the MSI Feeder Assembly (RRP 3.1).
7. Reinstall the Duplex Unit if one was installed.

RRP 3.3 MSI Support Assembly (PL4.1)



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RRP 3.3 MSI Support Assembly (PL4.1)

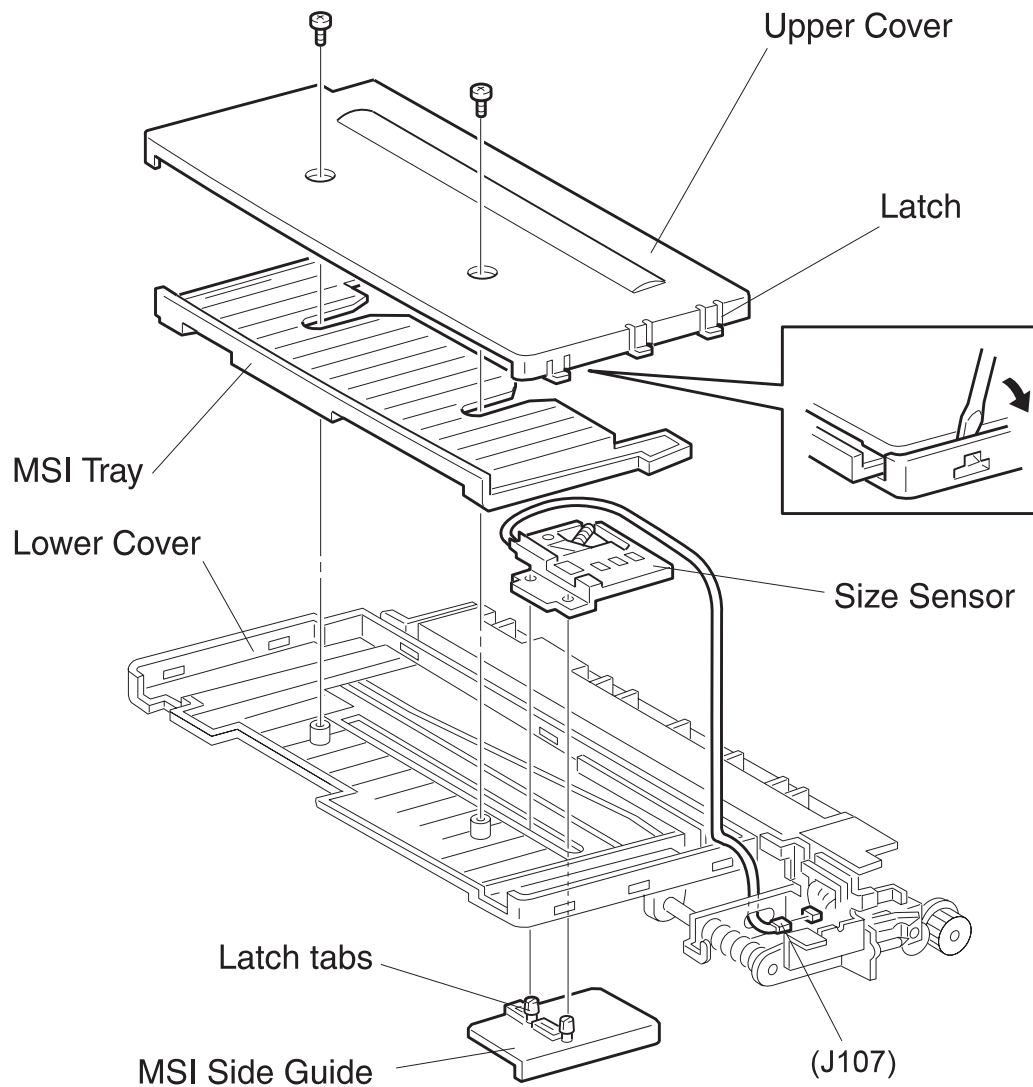
Removal

1. Remove the MSI Feeder Assembly (RRP 3.1).
2. Remove the one screw securing the Front Support Cover to the Support Assembly, and remove the Cover.
3. Remove the one screw securing the Rear Support Cover to the Support Assembly, and remove the Cover.
4. Remove the Rear Cover Assembly (RRP 1.3).
5. Disconnect J603.
6. Remove the four screws securing the MSI Support Assembly to the printer frame, and remove the Assembly.

Replacement

1. Position the MSI Support Assembly a few inches from the printer frame.
2. Insert the wire harness into the cutout in the printer frame.
3. Slide the two positioning pins that are located at both ends of the Support Assembly into the holes in the frame.
4. Use four screws to secure the Assembly to the frame.
5. Reconnect J603.
6. Reinstall the Rear Cover Assembly (RRP 1.3).
7. Reinstall the Rear Support Cover and use one screw to secure it to the Support Assembly.
8. Reinstall the Front Support Cover and use one screw to secure it to the Support Assembly.
9. Reinstall the MSI Feeder Assembly (RRP 3.1).

RRP 3.4 MSI Size Sensor Assembly (PL4.4)



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RRP 3.4 MSI Size Sensor Assembly (PL4.4)

Removal

1. Remove the MSI Feeder Assembly (RRP 3.1).
2. Place the MSI Feeder upside down, with the Tray facing you.
3. Remove the two screws securing the Lower Cover to the Upper Cover.
4. Locate the three latches on the right side of the Tray.
5. Press the first latch while you pry the edge of the Lower Cover out of the Upper Cover.
6. Repeat step 4 for the remaining two latches located on the right side of the Tray.
7. Repeat step 4 for the two latches that are located on the left side of the Tray, and remove the Lower Cover from the Upper Cover.
8. Remove the MSI Tray.
9. Squeeze together the latches holding the MSI Size Sensor to the MSI Side Guide, and pry the Sensor off away from the Upper Cover.
10. Disconnect J107 and remove the Sensor Assembly.

Replacement

1. Reinstall the MSI Side Guide, making sure the two latch tabs at the bottom of the Guide fit through the cutout in the Upper Cover.
2. Slide the Side Guide all the way to the right (toward the MSI Tray Spring).
3. Hold the Side Guide in place while you press the two holes in the Size Sensor onto the two latch tabs. Press hard enough so the Size Sensor locks into place.
4. Make sure the spring-loaded arm of the Sensor is under the molded track.
5. Slide the Sensor Assembly to the left to make sure it moves smoothly and the spring-loaded arm lowers as you move the Sensor to the left, and raises when you move the Sensor to the right.
6. Route the Sensor wire harness along the molded channel and through the cutout on the right side of the Upper Cover.
7. Reconnect J107.
8. Reinstall the MSI Tray, with the arrow side facing down.
9. Slide the three tabs on the upper edge of the Lower Cover into the three cutouts in Upper Cover, and press the Lower Cover onto the Upper Cover.
10. Press at the five latch locations to make sure the latches have locked the Lower Cover in place.
11. Use two screws to secure the Lower Cover to the Upper Cover.
12. Reinstall the MSI Feeder Assembly (RRP 3.1).

RRP 3.5 MSI Feed Clutch (PL4.3)

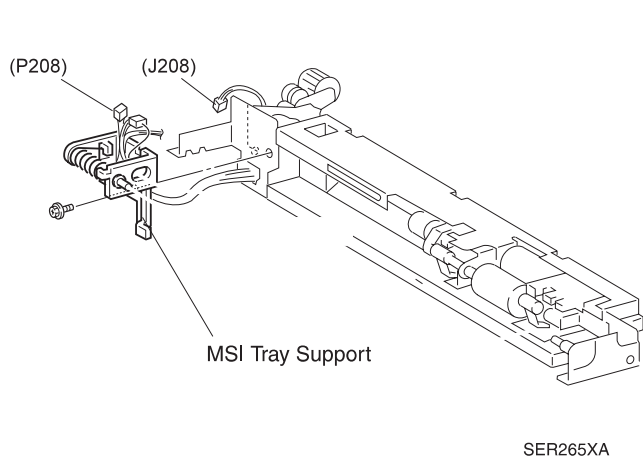


Figure 1

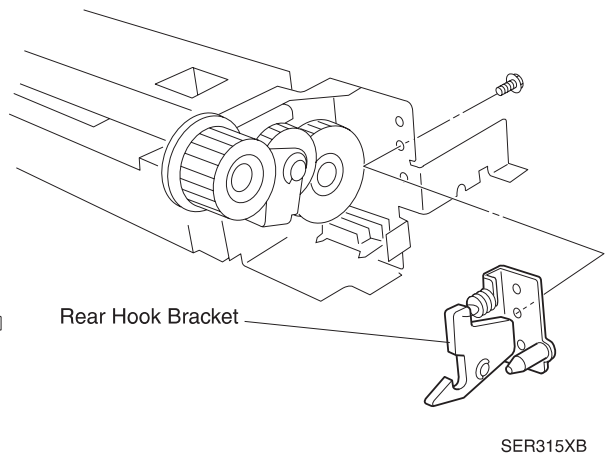


Figure 2

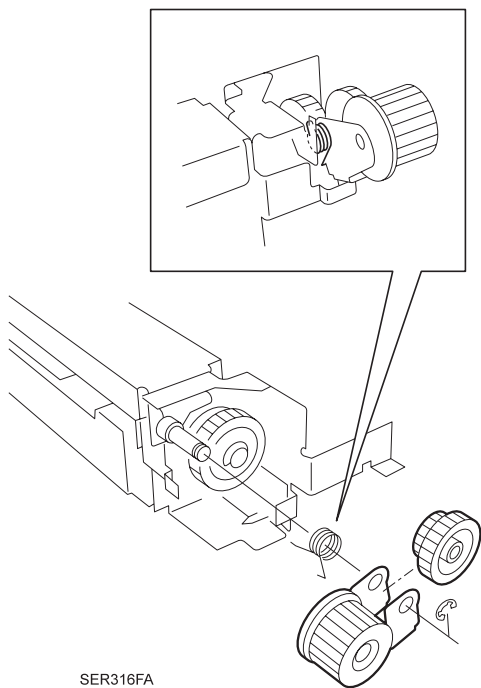


Figure 3

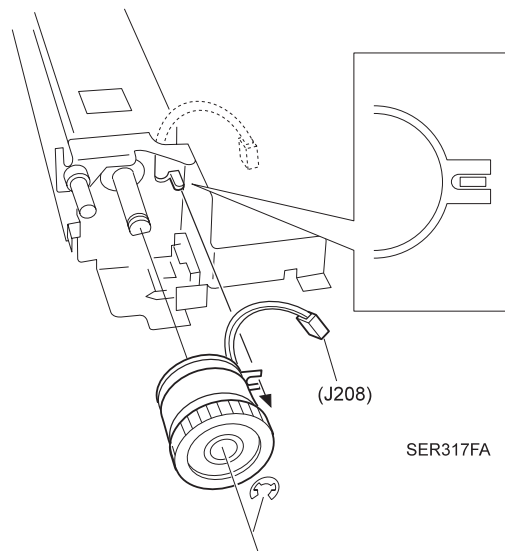


Figure 4

RRP 3.5 MSI Feed Clutch (PL4.3)

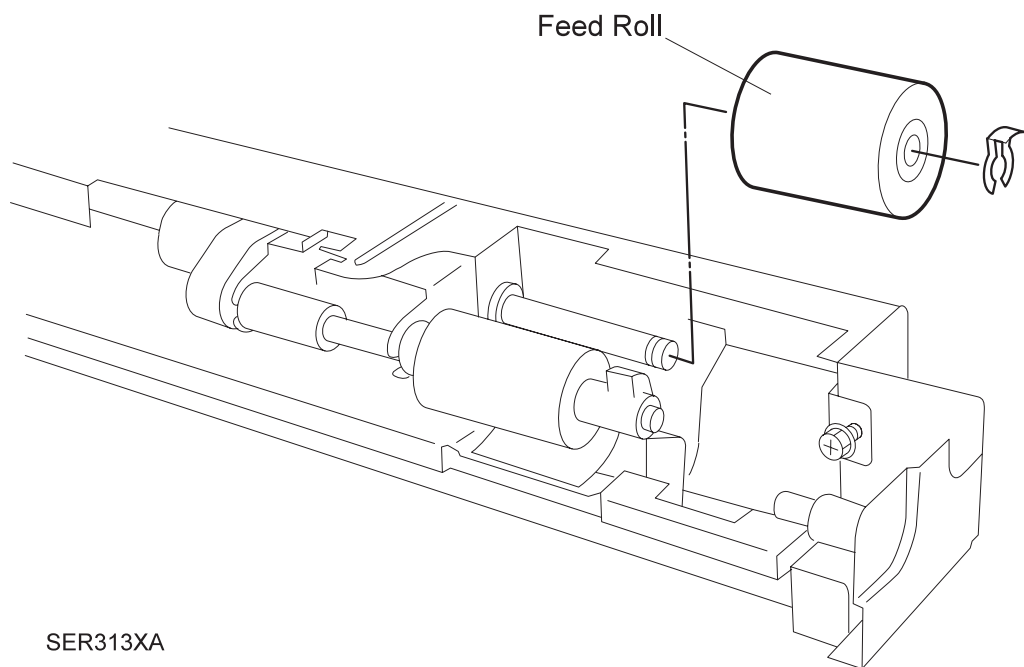
Removal

1. Remove the MSI Tray Assembly (RRP 3.2).
2. Remove the screw securing the MSI Tray Support (PL4.1.9) to the Feeder Assembly, and pull the Support away from the Assembly (Figure 1).
3. Disconnect the J208 running to the MSI Feed Clutch.
4. Remove the screw securing the Rear Hook Bracket to the Feeder Assembly and remove the Bracket (Figure 2).
5. Remove the E-ring securing the MSI Link Gear to the idler shaft, and slide the Gear, along with the MSI Drive Gear Assembly off of the shaft (Figure 3).
6. Remove the E-ring securing the MSI Feed Clutch to the Feed Shaft and slide the Clutch off of the Feed Shaft (Figure 4).

Replacement

1. Position the MSI Feed Clutch with the gear facing out, and slide the Clutch onto the Feed Shaft.
2. Thread the Clutch wire harness through the cutout in the Support frame.
3. Rotate the Clutch so the notch in the Clutch fits into the key in the Assembly (Figure 4).
4. Use an E-ring to secure the MSI Feed Clutch to the Feed Shaft.
5. Reinstall the Link Spring onto the Rear Latch (Figure 3).
6. Slide the MSI Link Gear, along with the MSI Drive Gear Assembly, onto the idler shaft.
7. Use an E-ring to secure the MSI Link Gear to the idler shaft.
8. Reinstall the Rear Hook Bracket to the Feeder Assembly, and use one screw to secure the Bracket.
9. Reconnect J208.
10. Reinstall the MSI Tray Support and use a screw to secure it to the Feeder Assembly.
11. Reinstall the MSI Tray Assembly (RRP 3.2).

RRP 3.6 MSI Feed Roll (PL4.3)



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RRP 3.6 MSI Feed Roll (PL4.3)

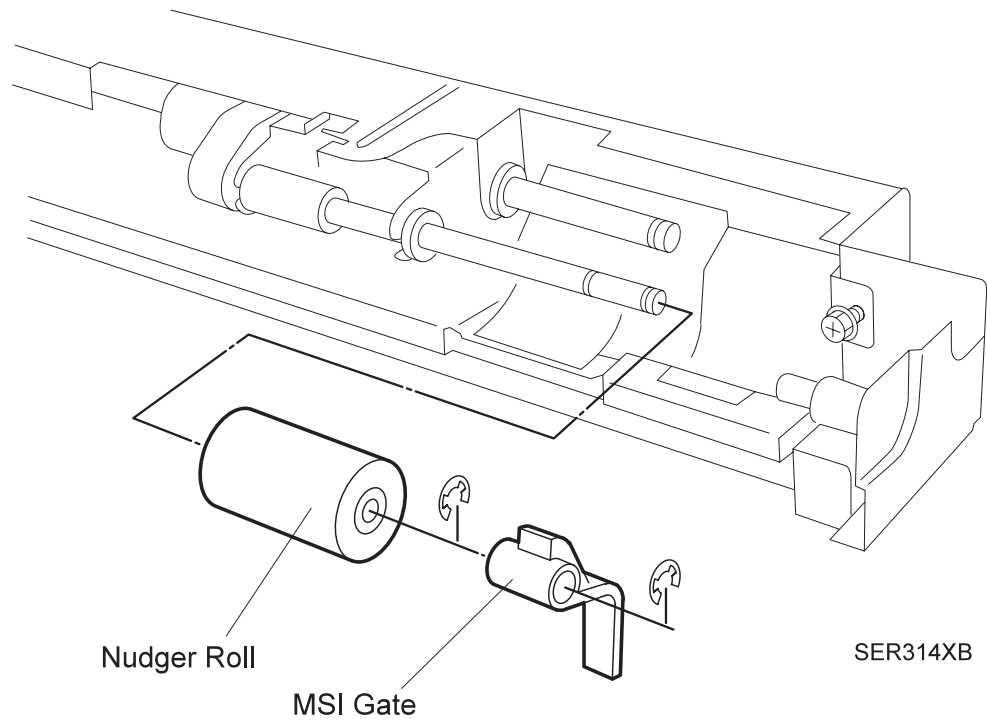
Removal

1. Remove the MSI Tray Assembly (RRP 3.2).
2. Remove the screw securing the MSI No-Paper Sensor Bracket (PL4.3.11) to the Feeder Assembly, and lift the Sensor Bracket out of the way.
3. Remove the KL clip securing the MSI Feed Roll to the Feed Shaft, and slide the Feed Roll off of the shaft.

Replacement

1. Position the Feed Roll so the metal end of the hole is facing the No-Paper Sensor.
2. Press down the Retard Pad and slide the MSI Feed Roll onto the Feed Shaft.
3. Use a KL clip to secure the Roll to the shaft.
4. Reinstall the No-Paper Sensor Bracket onto the Feeder Assembly, and use one screw to secure it to the Assembly.
5. Reinstall the MSI Tray Assembly (RRP 3.2).

RRP 3.7 MSI Nudger Roll (PL4.3)



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RRP 3.7 MSI Nudger Roll (PL4.3)

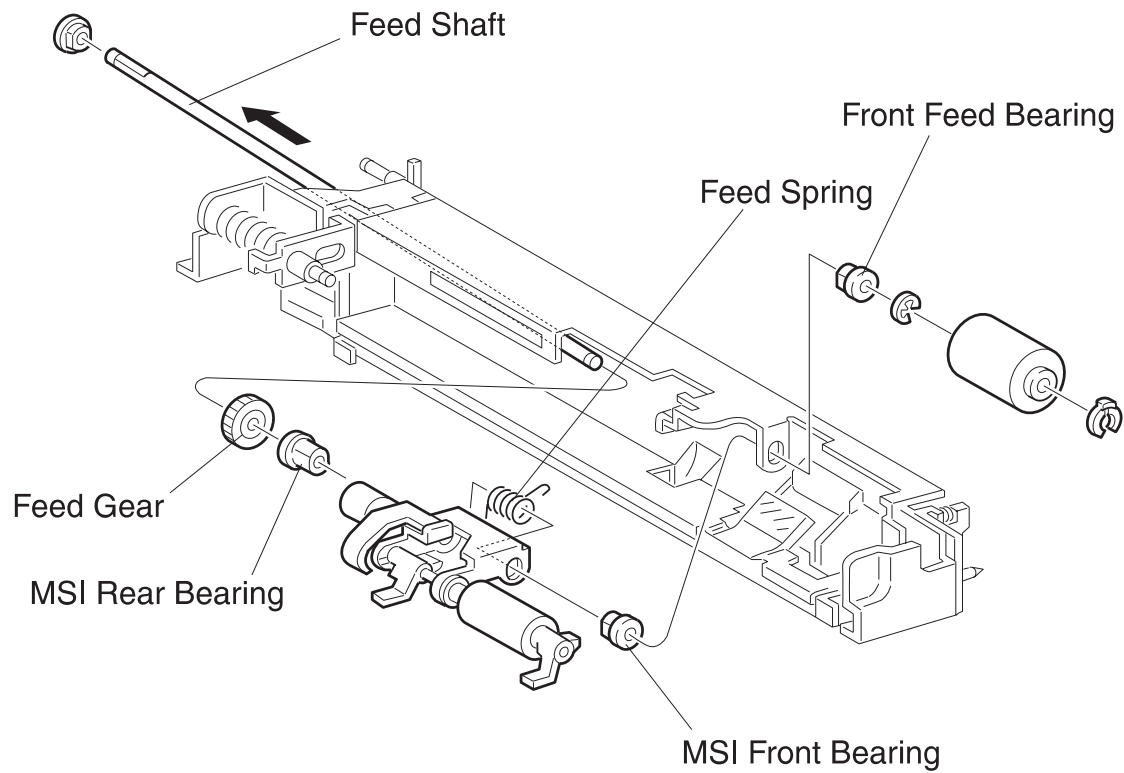
Removal

1. Remove MSI Feed Roll (RRP 3.6).
2. Remove the E-clip securing the MSI Gate (PL4.3.19) to the Nudger Shaft and remove the Gate.
3. Remove the E-clip securing the Nudger Roll to the Nudger Shaft and slide the Nudger Roll off of the shaft.

Replacement

1. Slide the Nudger Roll, forked end first, onto the Nudger Shaft, making sure the forked end engages the pin at the end of the shaft.
2. Use an E-clip to secure the Nudger Roll to the Shaft.
3. Slide the MSI Gate onto the Shaft (see the illustration for correct positioning of the Gate).
4. Use an E-clip to secure the Gate to the Shaft.
5. Reinstall the No-Paper Sensor Bracket onto the Feeder Assembly, and use one screw to secure it to the Assembly.
6. Reinstall the MSI Feeder Assembly (RRP 3.2).

RRP 3.8 MSI Nudger Roll Assembly (PL4.3)



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RRP 3.8 MSI Nudger Roll Assembly (PL4.3)

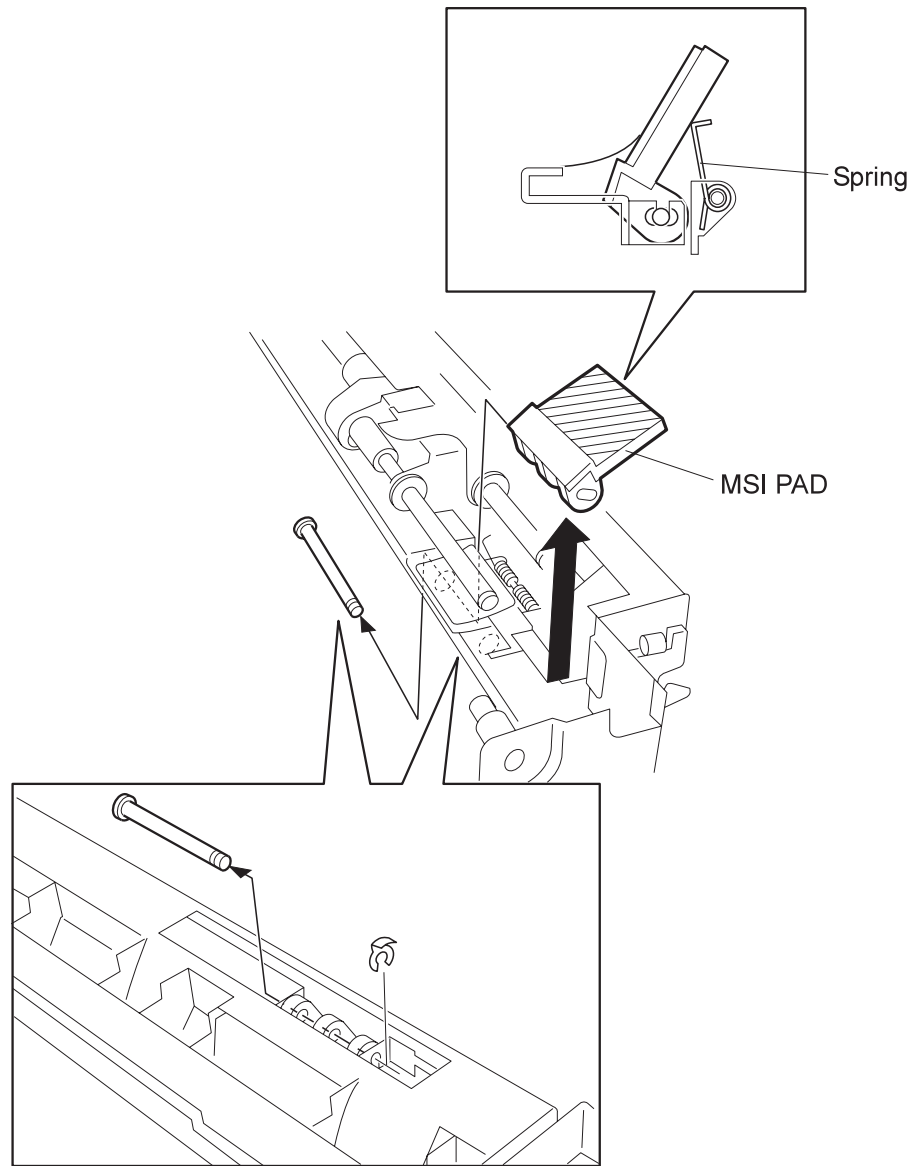
Removal

1. Remove the MSI Feed Clutch (RRP 3.5).
1. Remove MSI Feed Roll (RRP 3.6).
2. Remove the E-ring securing the MSI Front Feed Bearing to the Feed Shaft, and remove the Bearing.
3. Slide the Feed Shaft out of the Nudger Roll Assembly, and remove the Assembly from the MSI Feeder frame.
4. Remove the Front and Rear Feed Bearings from the Nudger Roll Assembly.

Replacement

1. Reinstall the Front and Rear Feed Bearings onto the Nudger Roll Assembly (see the figure for correct placement).
2. Hook one end of the Feed Spring over the Nudger Roll Assembly frame.
3. Reinstall the Nudger Roll Assembly into the MSI Feeder Assembly.
4. Hold the Feed Gear in place, with the flat side against the Nudger Roll Assembly.
5. Slide the Feed Shaft through the Feed Gear, through the Rear Feed Bearing, through the Nudger Roll Assembly, through the Feed Spring, through the Front MSI Bearing, and out through the cutout for the Front Feed Bearing.
6. Slip the Front Feed Bearing over the end of the Feed Shaft, and slide the Bearing into the cutout in the frame.
7. Continue sliding the Feed Shaft as far as it will go.
8. Use an E ring to secure the Shaft to the Front Feed Bearing.
9. Hook the free end of the Feed Spring through the opening at the rear of the Assembly frame.
10. Reinstall the MSI Feed Roll (RRP 3.6).
11. Reinstall the MSI Feed Clutch (RRP 3.5).

RRP 3.9 MSI Pad (PL4.2)



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RRP 3.9 MSI Pad (PL4.2)

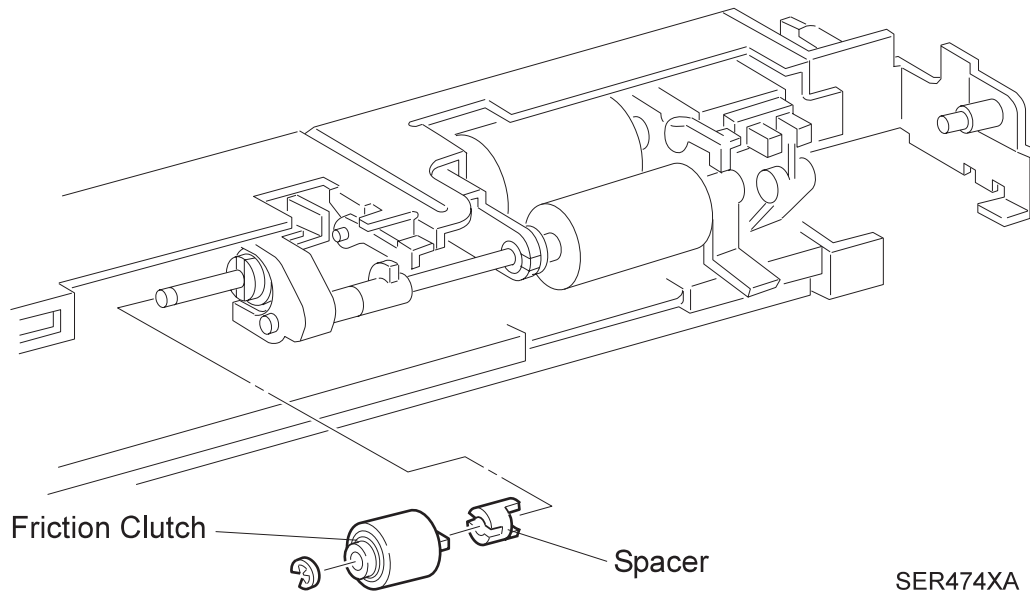
Removal

1. Remove the MSI Feed Roll (RRP 3.6).
2. Remove the MSI Nudger Roll (RRP 3.7).
3. Turn the MSI Feeder upside down.
4. Remove the KL clip securing the MSI Pad Pin to the Feeder, and slide the Pin out of the MSI Pad.
5. Turn the MSI Feeder right side up.
6. Pull back the MSI Paper Guide and slide the MSI Pad to the right and out of the Feeder.

Replacement

1. Pull back the MSI Paper Guide and slide the MSI Pad between the Guide and the Pad Spring.
2. Turn the MSI Feeder upside down.
3. Slide the MSI Pad Pin into the hole in the Feeder, through the holes in the three legs of the MSI Pad, and out through the other hole in the Feeder.
4. Use a KL clip to secure the MSI Pad Pin to the Feeder.
5. Press down on the MSI Pad to make sure it moves smoothly and has a spring-action return.
6. Reinstall the MSI Nudger Roll (RRP 37).
7. Reinstall the MSI Feed Roll (RRP 3.6).

RRP 3.10 MSI Friction Clutch (PL4.3)



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RRP 3.10 MSI Friction Clutch (PL4.3)

Removal

1. Remove the MSI Tray Assembly (RRP 3.2).
2. Remove the E ring securing the Clutch to the shaft.
3. Rotate the Clutch clockwise as you pull the it off of the shaft.

Replacement

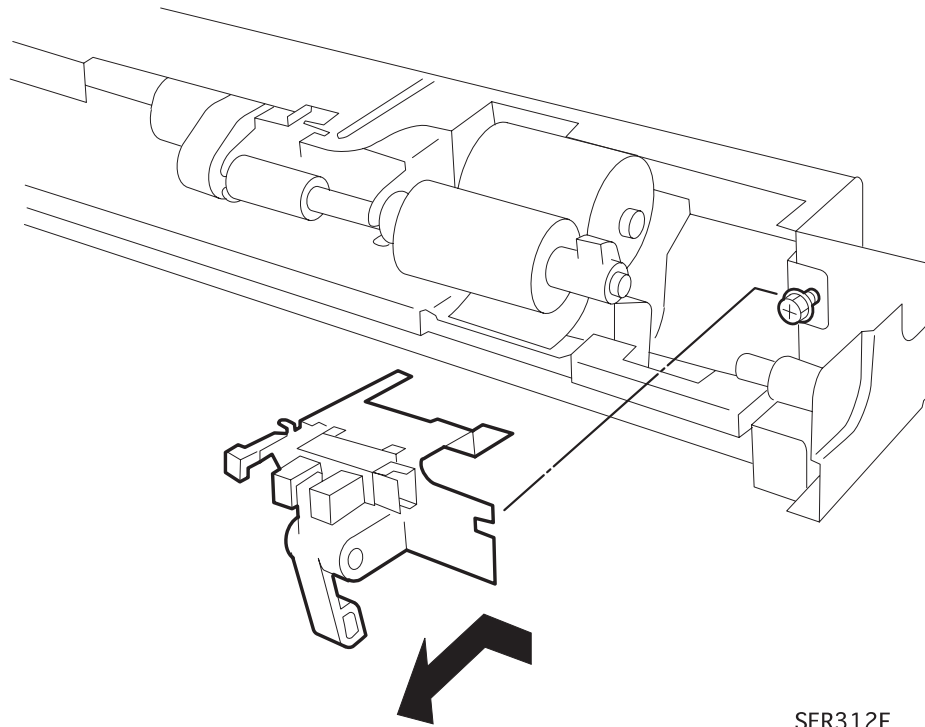
1. Make sure the Spacer is in place on the Clutch shaft.
2. Rotate the Spacer so the tabs on the Spacer mesh with the notches on the Clutch Gear.



When performing step 3, push only on the rear of the Clutch. Never press the sides of the Clutch. Pressing the sides of the Clutch will cause the Clutch break apart.

3. Slide the Friction Clutch onto the shaft, rotating the Clutch as you slide it toward the Spacer.
4. Make sure the Clutch and Spacer mesh.
5. Use one E ring to secure the Clutch to the shaft.
6. Reinstall the MSI Tray Assembly (RRP 3.2).

RRP 3.11 MSI No-Paper Sensor Assembly (PL4.3)



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RRP 3.11 MSI No-Paper Sensor Assembly (PL4.3)

Removal

1. Remove the MSI Feeder Assembly (RRP 3.2).
2. Remove the screw securing the MSI No-Paper Sensor Bracket to the Feeder Assembly, and lift the Sensor Bracket off of the Feeder.
3. Disconnect the P/J from the No-Paper Sensor.
4. Squeeze the Sensor latches and remove the Sensor from the Bracket.

Replacement

1. Position the Sensor so the P/J connector faces the screw hole in the Sensor Bracket.
2. Insert the Sensor latches into the two opening in the Bracket.
The Sensor snaps into place.
3. Make sure the arm of the No Paper Actuator is between the two arms of the Sensor.
4. Reconnect the P/J to the No-Paper Sensor.
5. Insert the Bracket prong through the keyhole opening in the back of the Feeder.
6. Slide the Bracket to the right so the screw hole in the Bracket lines up with the screw hole in the Feeder.
7. Use one screw to secure the Bracket to the Feeder.
8. Manually actuate the No Paper Actuator to make sure it moves freely between the arms of the Sensor.
9. Reinstall the MSI Feeder Assembly (RRP 3.2).

RRP 3.12 L/H Low Cover Assembly (PL5.1)

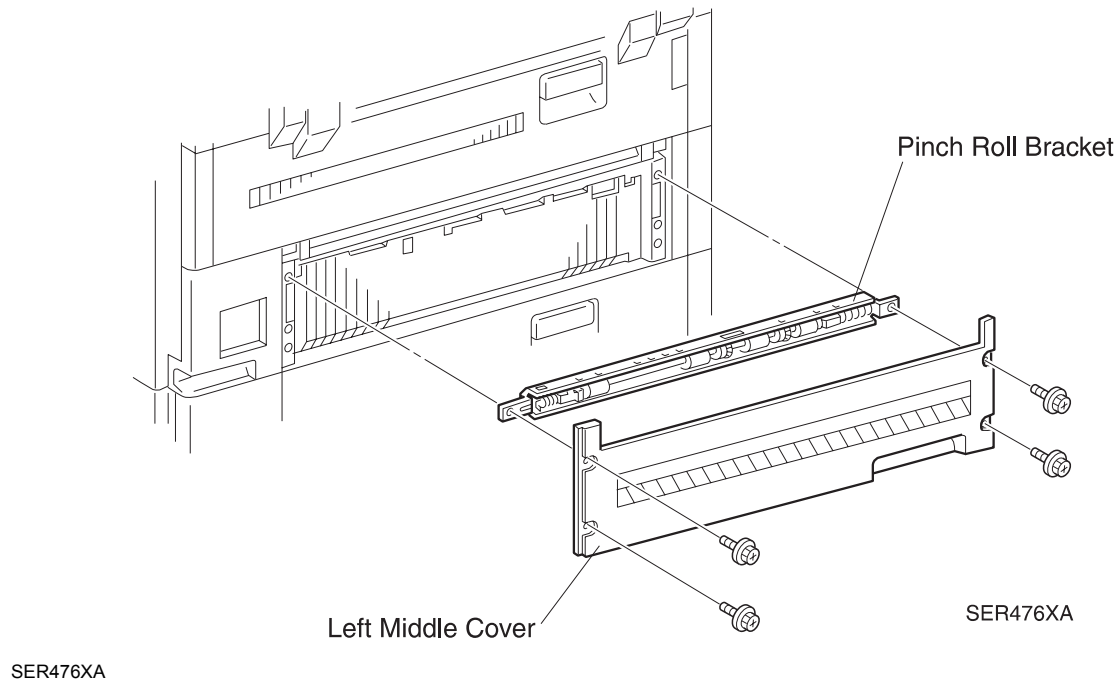


Figure 1

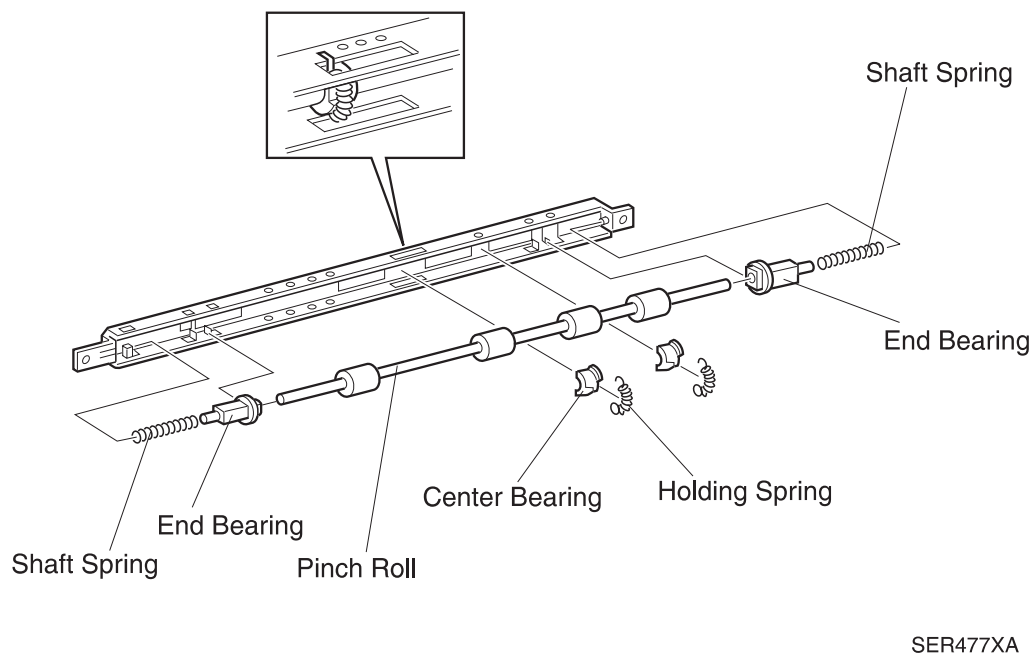


Figure 2

RRP 3.12 L/H Low Cover Assembly (PL5.1)

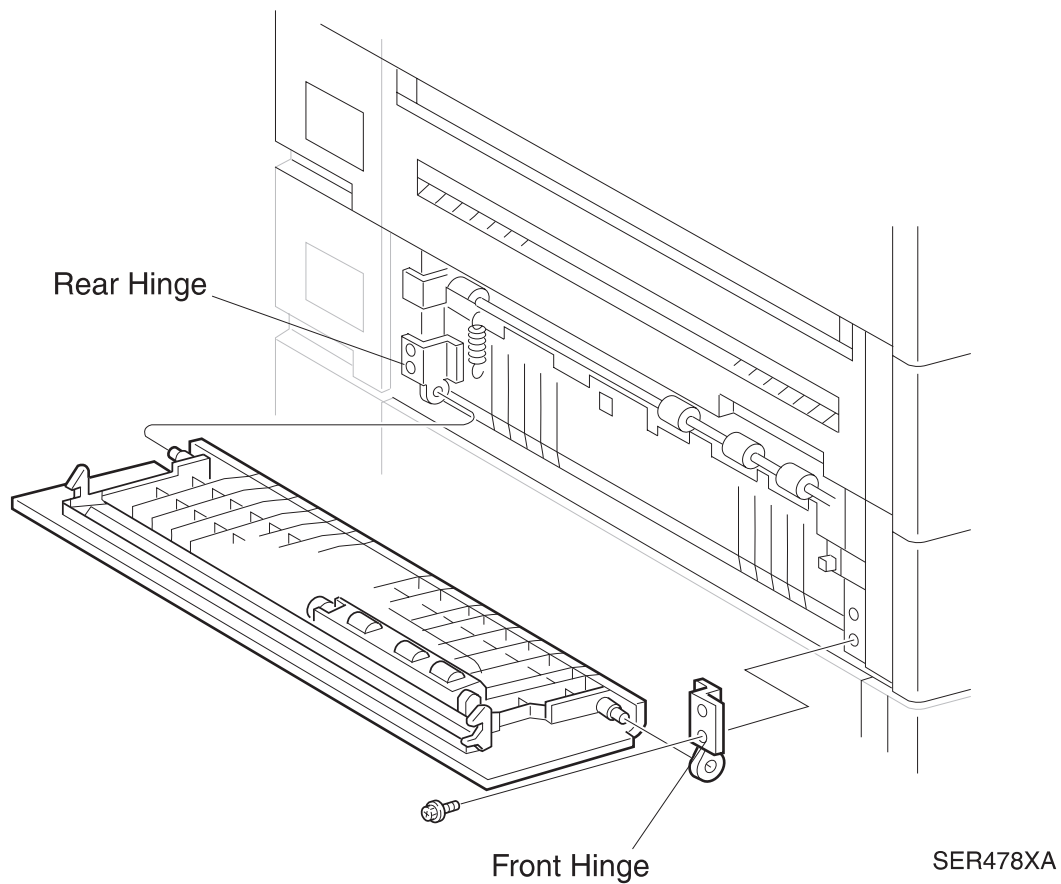
Removal

1. Remove the MSI Support Assembly (RRP 3.3).
2. Remove the four screws securing the Left Middle Cover to the printer frame, and remove the Cover.
3. Lift the Pinch Roll Bracket off of the Left Middle Cover.
4. Remove the two Holding Springs, and lift the Pinch Roll out of the Bracket.
5. Remove the two Center Bearings, the two Shaft Springs, and the two End Brackets from the Shaft.

Replacement

1. Reinstall the two End Bearings onto the Shaft.
2. Reinstall the two Shaft Springs over the End Bearings.
3. Compress the Shaft Springs and reinstall the Shaft into the Bracket.
Make sure that the lip of each Bearing is trapped behind the tabs in the Bracket, and that each Pinch Roll lines up with the corresponding cutout in the Bracket.
4. Hook one end of each Holding Spring into a spring hole in one side of the Bracket.
5. Bring the Springs over the Shaft and hook the other end of each Spring into the spring hole on the opposite side of the Bracket.
6. Slide a Center Bearing under each Holding Spring, as shown in the figure.
7. Reinstall the Pinch Roll Bracket onto the Left Middle Cover, as shown in the figure.
8. Reinstall the Left Middle Cover onto the printer frame.
9. Use four screws to secure the Left Middle Cover to the printer frame.
10. Reinstall the MSI Support Assembly (RRP 3.3).

RRP 3.13 Left Lower Cover Assembly (PL5.2)



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RRP 3.13 Left Lower Cover Assembly (PL5.2)

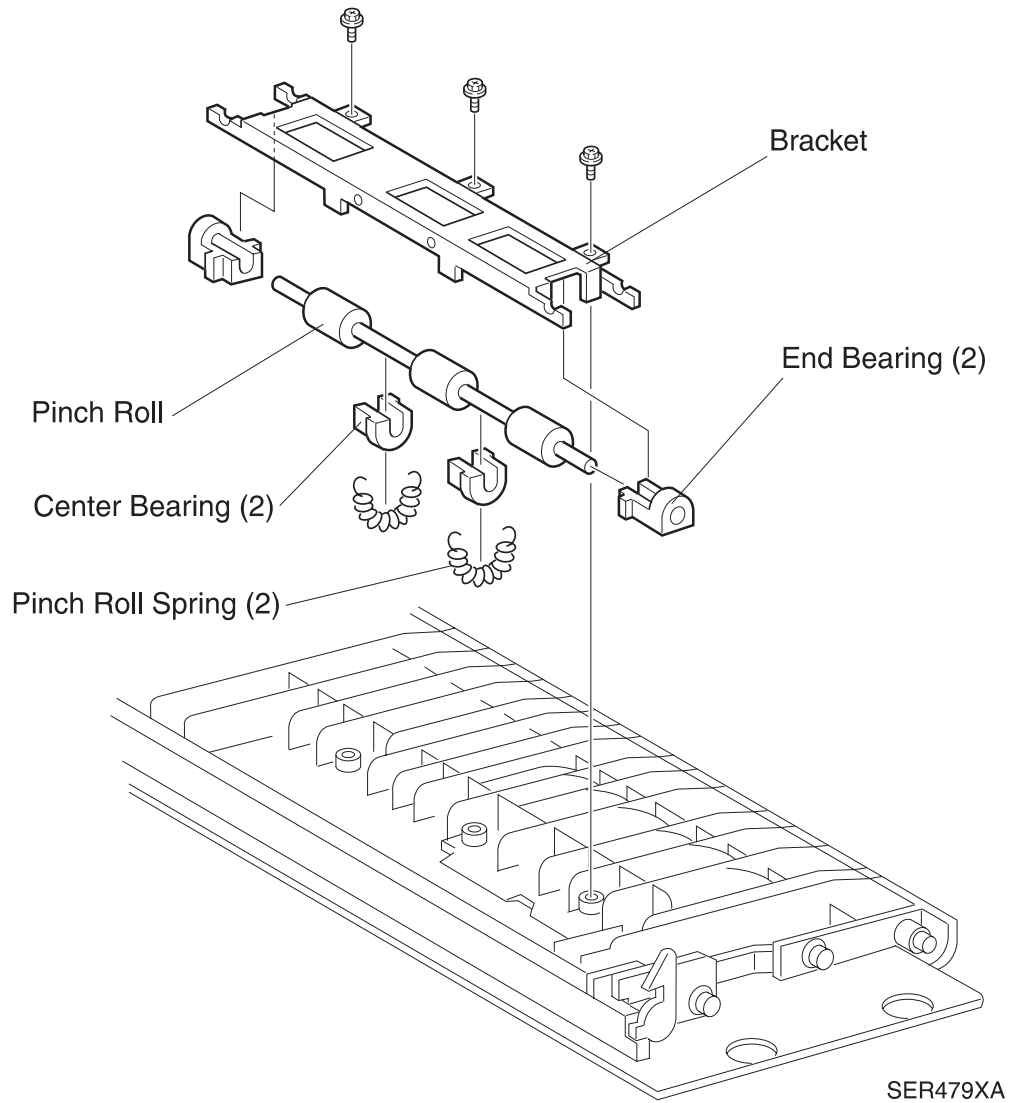
Removal

1. Open the Left Lower Cover.
2. Remove the screw securing the Front Hinge to the printer frame.
3. Pull the Left Lower Cover away from the printer frame.

Replacement

1. Reinstall the Front Hinge onto the pivot post on right side of the Left Lower Cover.
2. Reinstall the Left Lower Cover by first sliding the left pivot post into the Rear Hinge.
3. Use one screw to secure the Front Hinge to the printer frame.
4. Close the Left Lower Cover.

RRP 3.14 Left Lower Cover Pinch Roll Assembly (PL5.2)



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RRP 3.14 Left Lower Cover Pinch Roll Assembly (PL5.2)

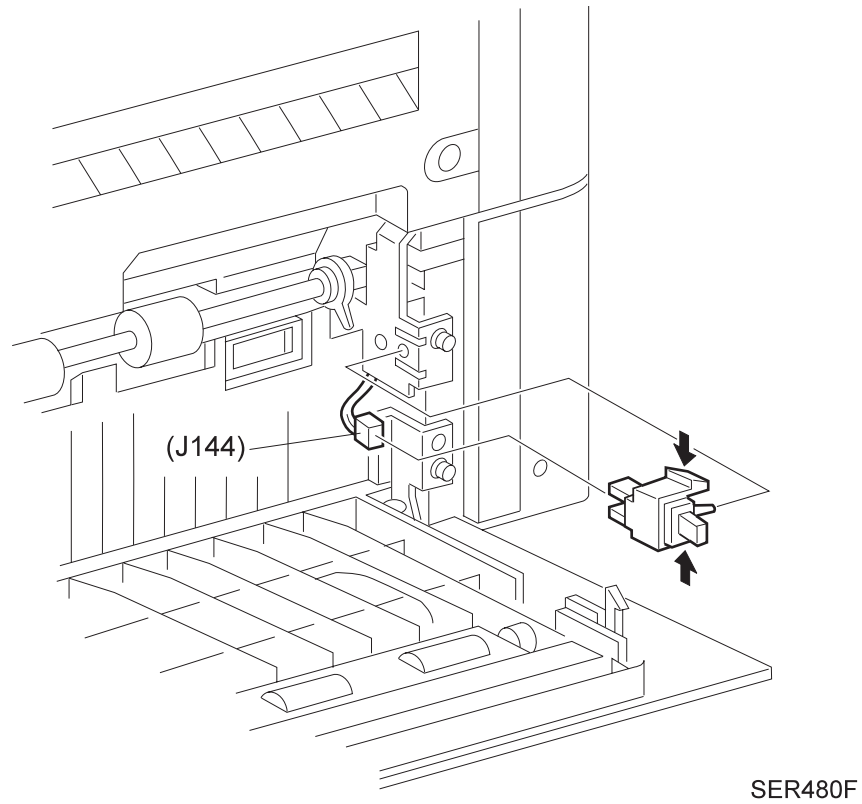
Removal

1. Remove the Left Lower Cover Assembly (RRP 3.13).
2. Remove the three screws securing the Pinch Roll Bracket to the Assembly, and remove the Bracket.
3. Unhook the two Pinch Roll Springs and lift the Pinch Roll out of the Bracket.
4. Remove the two Center Bearings and the two End Bearings from the Roll.

Replacement

1. Reinstall an End Bearing to each end of the Pinch Roll.
2. Reinstall the Pinch Roll onto the Bracket.
Make sure that the lip of each Bearing is trapped behind the tabs in the Bracket.
3. Hook one end of each Pinch Roll Spring into a spring hole in one side of the Bracket.
4. Bring the Springs over the Pinch Roll Shaft and hook the other end of each Spring into the spring hole on the opposite side of the Bracket.
5. Slide a Center Bearing under each Pinch Roll Spring, as shown in the figure.
6. Reinstall the Bracket onto the Left Lower Cover Assembly, and use three screws to secure it to the Assembly.
7. Reinstall the Left Lower Cover Assembly (RRP 3.13).

RRP 3.15 Left Lower Cover Interlock Switch (PL5.2)



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RRP 3.15 Left Lower Cover Interlock Switch (PL5.2)

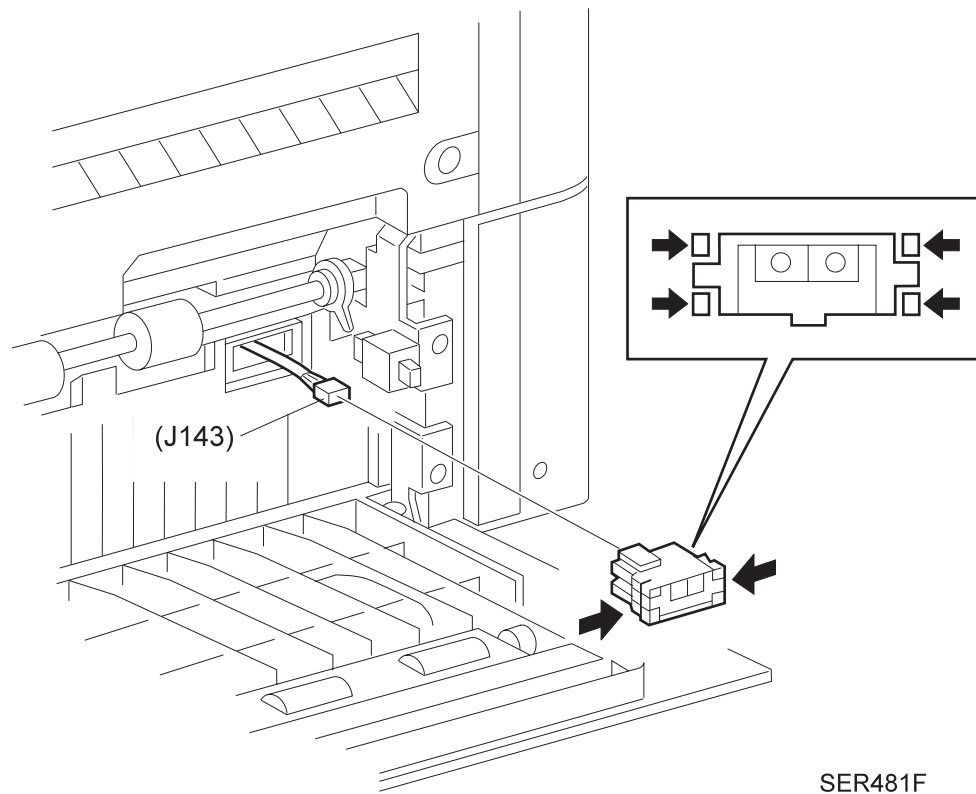
Removal

1. Open the Left Lower Cover.
2. Squeeze the sides of the Switch and pull it away from the printer frame.
3. Disconnect J144.

Replacement

1. Reconnect J144.
2. Squeeze the sides of the Switch while inserting the locating tab on the Switch into the opening in the frame.
3. Release the sides of the Switch and press it into the frame.
The Switch snaps into place.
4. Close the Left Lower Cover.

RRP 3.16 Tray 2 Take Away Sensor (PL5.2)



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RRP 3.16 Tray 2 Take Away Sensor (PL5.2)

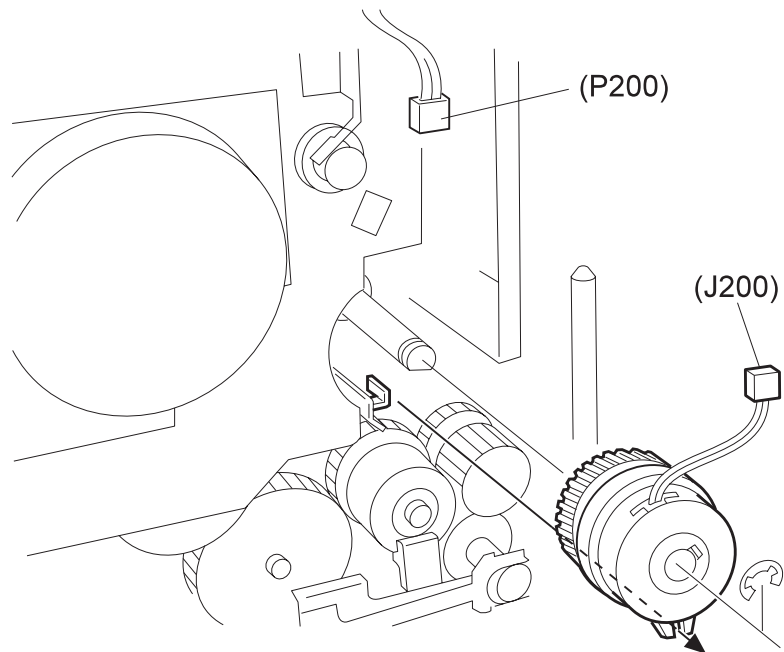
Removal

1. Open the Left Lower Cover.
2. Squeeze in all four Sensor latches while you pull the Sensor out of the printer frame.
3. Disconnect J143 from the Sensor.

Replacement

1. Reconnect J143 to the Sensor.
2. Insert the Sensor into the cutout in the frame. (See the figure for correct positioning).
3. Press in on the Sensor until it snaps into place.
4. Close the Left Lower Cover.

RRP 4.1 Registration Clutch (PL 6.1)



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RRP 4.1 Registration Clutch (PL 6.1)

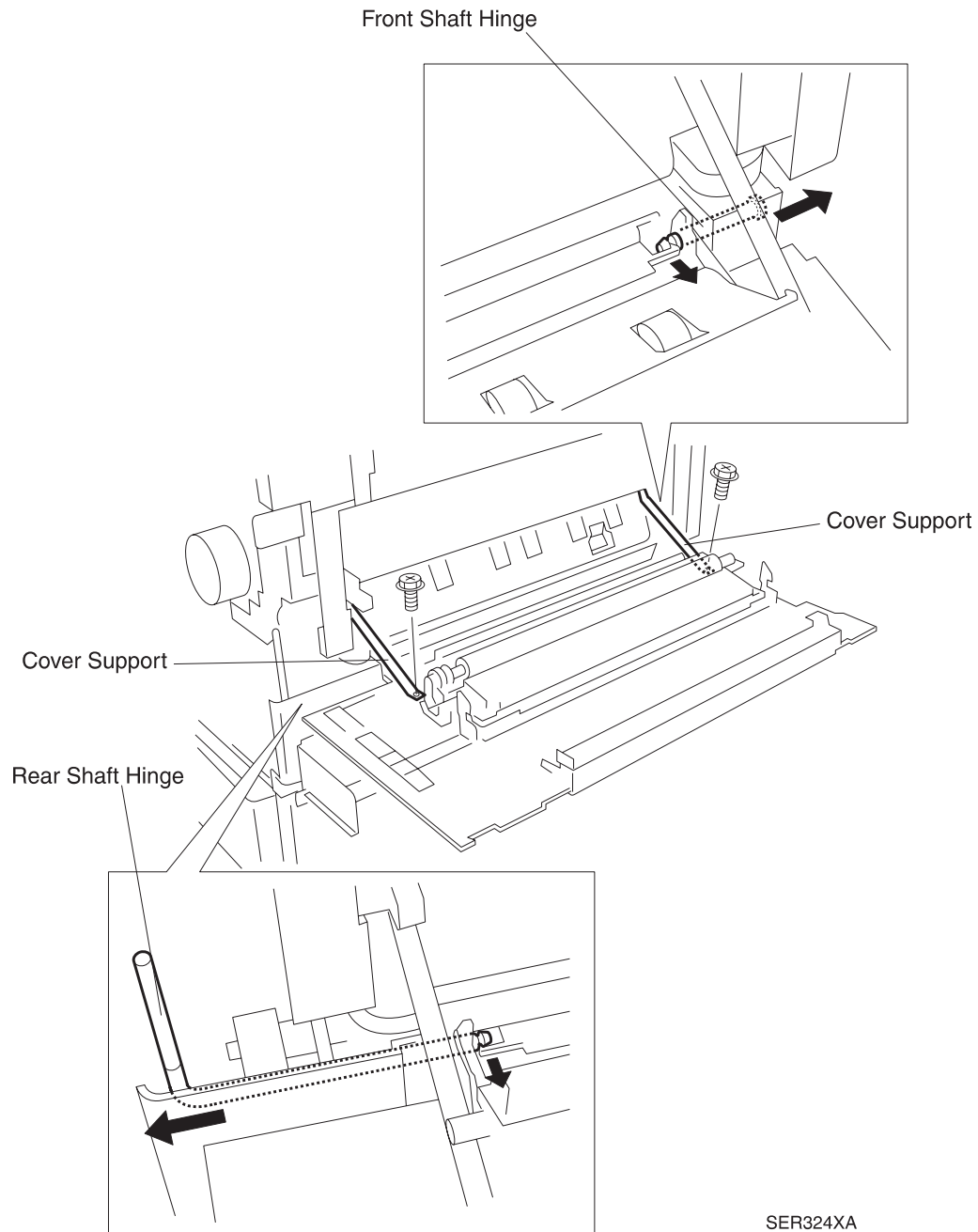
Removal

1. Remove the Rear Cover (RRP 1.3).
2. Disconnect P/J 200 from the Registration Clutch.
3. Remove the E clip securing the Registration Clutch to the Registration Shaft.
4. Push out on the shaft latch as you slide the Clutch off of the shaft.

Replacement

1. Slide the Registration Clutch onto the shaft.
The shaft latch snaps the Clutch into place on the shaft.
2. Use an E clip to secure the Registration Clutch to the Registration Shaft.
3. Reconnect P/J 200 from the Registration Clutch.
4. Reinstall the Rear Cover (RRP 1.3).

RRP 4.2 Left Upper Cover Assembly (PL 6.2)



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RRP 4.2 Left Upper Cover Assembly (PL 6.2)

Removal

1. Remove the Rear Cover (RRP 1.3).
2. Open the Duplex Unit.
3. Open the Left Upper Cover.



When the Left Upper Cover is open, the BTR is exposed. Do not touch the BTR. Grease and dirt on, or physical damage to the BTR will effect print quality.

4. Use a screwdriver blade to open the latch securing the Front Shaft Hinge, and slide the Hinge out of the Cover Assembly.
Do not slide the Hinge completely out of the printer frame.
5. Use a screwdriver blade to open the latch securing the Rear Shaft Hinge, and slide the Hinge out of the Cover Assembly.
Do not slide the Hinge completely out of the printer frame.
6. Pull the Left Upper Cover Assembly away from the printer frame.
7. Remove the two screws securing the two Cover Supports to the frame, and remove the Cover.

Replacement

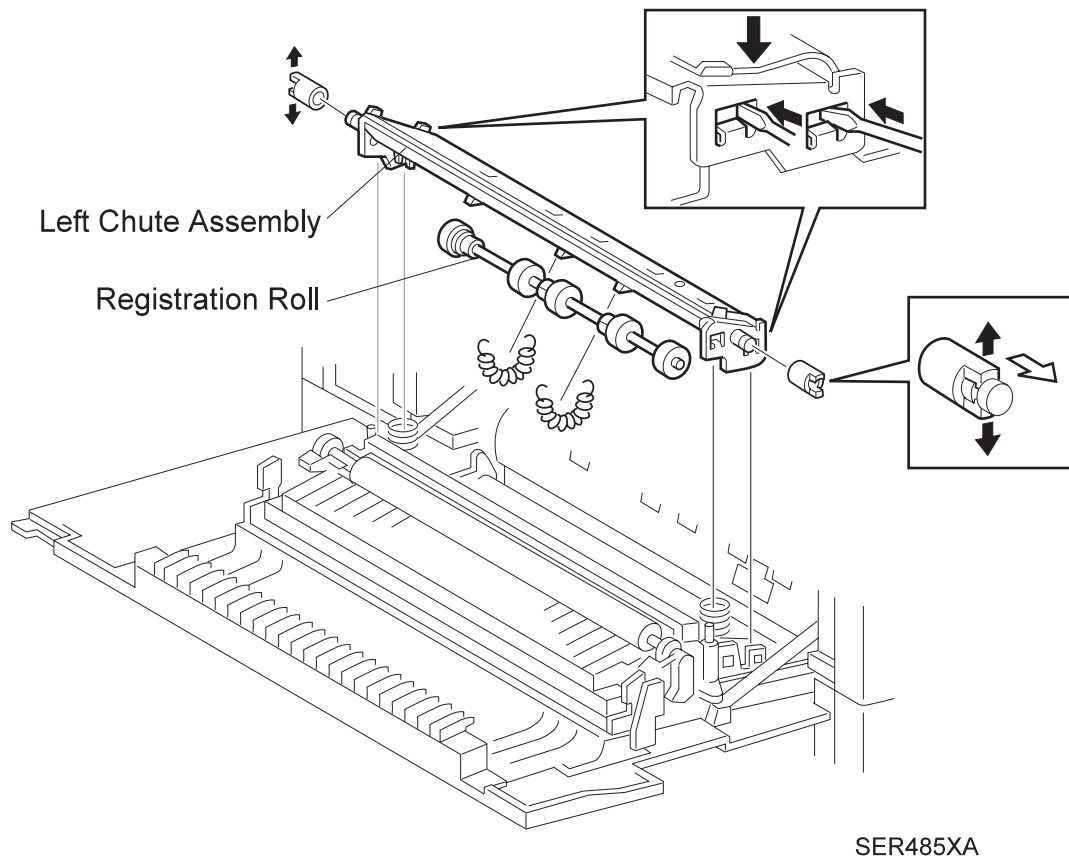
1. Open the Duplex Unit.



When the Left Upper Cover is open, the BTR is exposed. Do not touch the BTR. Grease and dirt on, or physical damage to the BTR will effect print quality.

2. Reinstall the Left Upper Cover Assembly so the hinge openings in the Cover arms line up with the hinge holes in the printer frame.
3. Slide the Rear Shaft Hinge into the hinge opening in the Rear Cover arm, until the latch locks the Hinge onto the shaft.
4. Slide the Front Shaft Hinge into the hinge opening in the Front Cover arm, until the latch locks the Hinge onto the shaft.
5. Use two screws to secure the two Cover Supports to the frame.
6. Reinstall the Rear Cover (RRP 1.3).
7. Open and close the Cover to make sure it opens and latches correctly.

RRP 4.3 Left Chute Assembly (PL 6.2)



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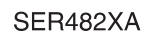
RRP 4.3 Left Chute Assembly (PL 6.2)

Removal

1. Open the Left Upper Cover.
2. Remove the BTR Assembly (RRP 5.3).
3. Push down on the rear of the Chute Assembly and use the blade of a small screwdriver to free the rear latches from the Cover.
4. Push down on the front of the Chute Assembly and use the blade of a small screwdriver to free the front latches from the Cover.
5. Remove the Left Chute Assembly.
6. Release the two springs and remove the Registration Roll Assembly from the Chute Assembly.

Replacement

1. Reinstall the Registration Roll Assembly onto the Chute Assembly.
Make sure the cutout in the Chute Assembly capture the lips of the three bearings on the shaft.
2. Hook the free ends of the two springs into the holes in the Chute, so the springs lay on top of the bearings and secure the shaft to the Chute.
3. Position the Left Chute Assembly so the cutout for the Registration Sensor is located opposite the Registration Sensor.
4. Lift the clear mylar strip out of the way as you lower the Chute onto the Upper Cover.
5. As you lower the Chute make sure the top of the two Comp Springs fit into the tabs on the underside of the Chute.
6. Press the front of the Chute so the two latches lock the front of the Chute into place.
7. Press the rear of the Chute so the two latches lock the rear of the Chute into place.
8. Reinstall the BTR Assembly (RRP 5.3).
9. Close the Left Upper Cover.



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RRP 4.4 Registration Chute Assembly (PL 6.1))

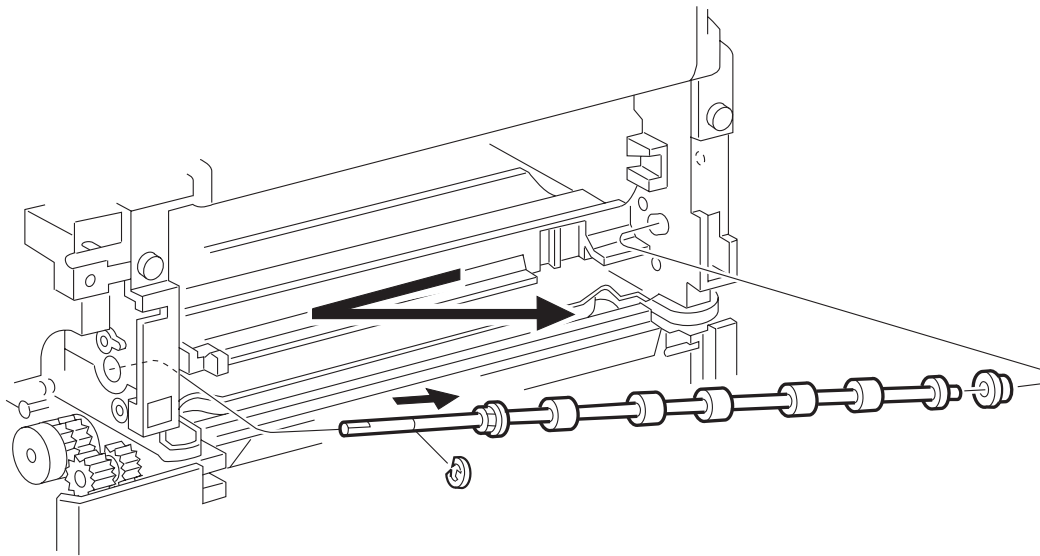
Removal

1. Remove the Left Upper Cover Assembly (RRP 4.2).
2. Remove the Registration Clutch (RRP 4.1).
3. Remove the screw securing the Inner Cover to the printer frame, and remove the Inner Cover.
4. Remove the EP Cartridge (RRP 5.2).
5. Remove the screw securing the Magnet Plate to the printer frame, and remove the Plate.
6. Remove the two screws (under the Magnet Plate) securing the front of the Registration Chute to the printer frame.
7. Remove the two screws (under the Registration Clutch) securing the rear of the Registration Chute to the printer frame, and remove the Chute.
8. Disconnect P/J103 from the Registration Sensor.

Replacement

1. Reconnect P/J103 to the Registration Sensor.
2. Reinstall the Registration Chute Assembly into the printer frame.
Make sure the mylar strip is on the outside of the Chute.
3. Align the four screw holes (two at each end) in the Registration Chute with the four screw holes in the printer frame.
4. Use two screws to secure the Chute to the front of the frame, and use two screws to secure the Chute to the rear of the frame.
5. Reinstall the Magnet Plate to the printer frame, and use one screw to secure the Plate.
6. Reinstall the Inner Cover to the frame, and use one screw to secure the Cover.
7. Reinstall the Left Upper Cover Assembly (RRP 4.2).
8. Reinstall the Registration Clutch (RRP 4.1).
9. Reinstall the EP Cartridge (RRP 5.2).

RRP 4.5 Registration Roll Assembly (PL 6.1)



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RRP 4.5 Registration Roll Assembly (PL 6.1)

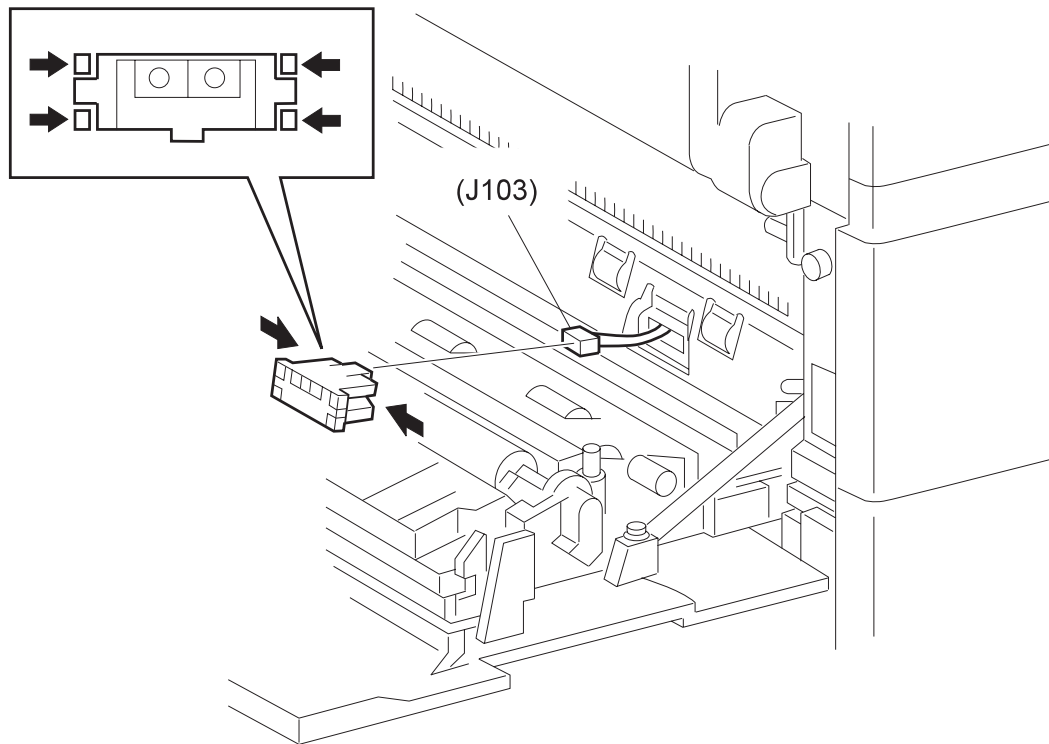
Removal

1. Remove the Registration Chute Assembly (RRP 4.6).
2. Remove the E ring from the rear of the Registration Roll Shaft.
3. Slide the Shaft to the rear to free the front of the Shaft from the front bearing.
4. Remove the Registration Roll Assembly.

Replacement

1. Make sure both the front and rear bearings are in place in the frame.
2. Slide the rear of the Registration Roll Shaft through the rear bearing.
3. Slide the front of the Shaft to the front bearing.
4. Use one E ring to secure the rear of the Shaft to the rear bearing.
5. Reinstall the Registration Chute Assembly (RRP 4.6).

RRP 4.6 Registration Sensor (PL 6.1)



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RRP 4.6 Registration Sensor (PL 6.1)

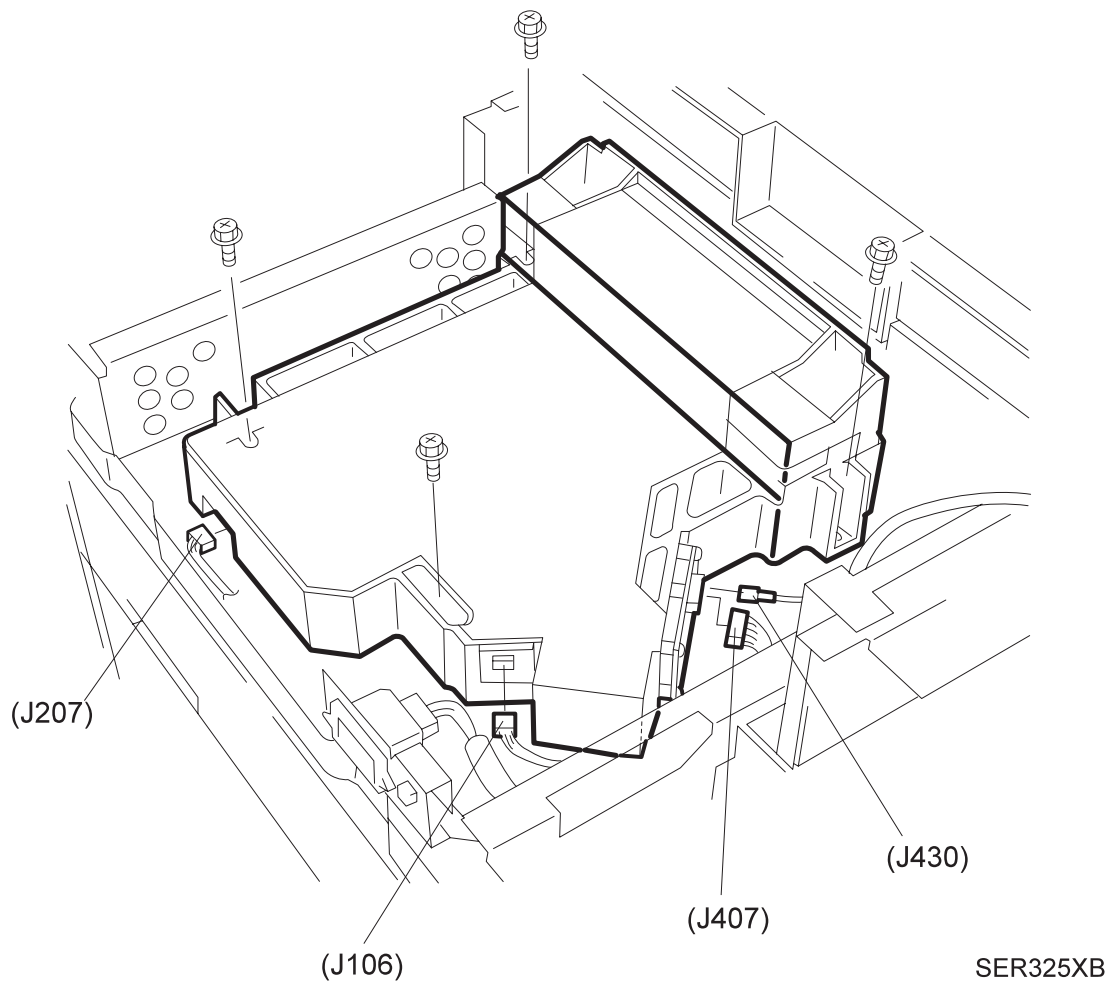
Removal

1. Open the Left Upper Cover.
2. Squeeze in all four Sensor latches while you pull the Sensor out of the Registration Chute Assembly.
3. Disconnect J103 from the rear of the Sensor.

Replacement

1. Reconnect J103 to the Registration Sensor.
2. Insert the Sensor into the cutout in the Registration Chute Assembly.
3. Press in on the Sensor unit it snaps into place.
4. Close the Left Upper Cover.

RRP 5.1 ROS Assembly (PL7.1)



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RRP 5.1 ROS Assembly (PL7.1)

Removal

1. Remove the Low Voltage Power Supply (RRP 9.2).
2. Disconnect the J106, J207, J407, and J430 from the ROS.
3. Remove the four screws that secure the ROS to the printer frame.
4. Lift the ROS Assembly off of the printer frame.
5. Place the ROS Assembly on a flat and stable surface.

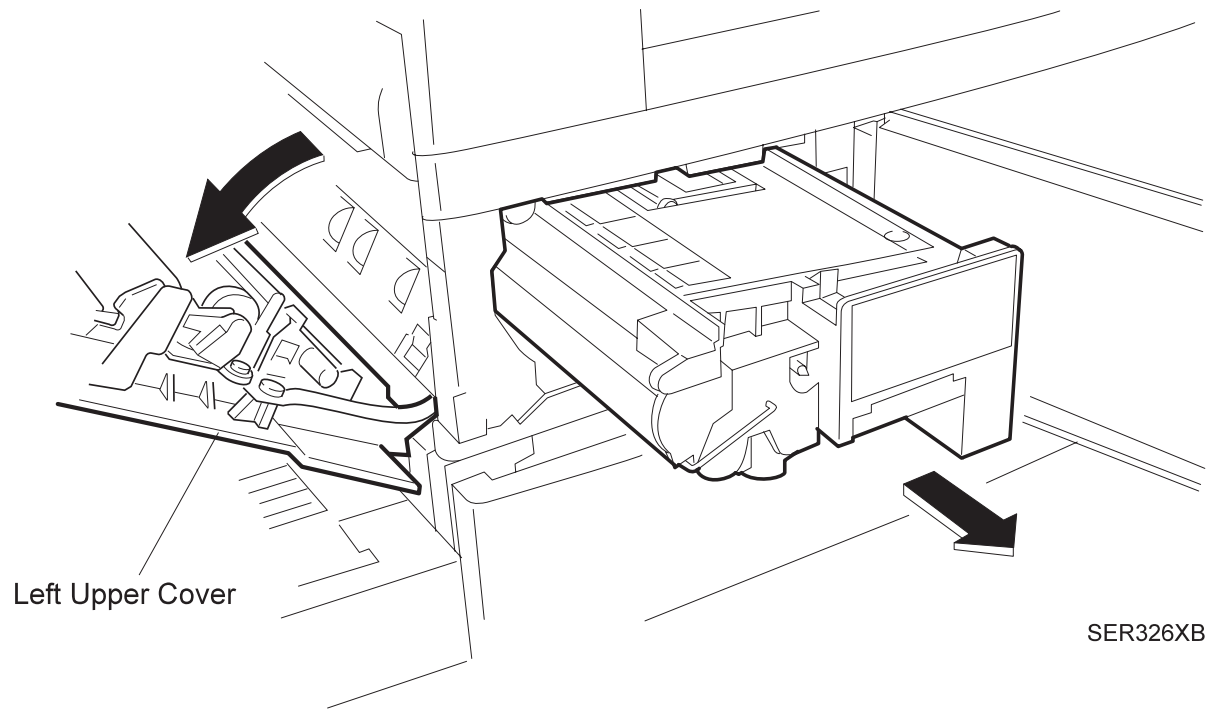


Do not remove covers or disassemble the ROS Assembly. There are no replaceable parts or field adjustable points located inside the ROS Assembly.

Replacement

1. Reinstall the ROS Assembly onto the printer frame.
The small PWB mounted on the side of the ROS Assembly should be near the HVPS and MCU side of the printer frame.
2. Reposition the ROS Assembly until the two locating pins mounted on the bottom of the ROS drop into locating holes that are cut into the printer frame.
3. Make sure you have not trapped any wire harnesses under the ROS Assembly.
4. Use four screws to secure the ROS Assembly to the printer frame.
5. Reconnect J106, J207, J407, and J430 to the ROS.
6. Reinstall the LVPS (RRP 9.2).

RRP 5.2 EP Cartridge (PL 7.2)



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RRP 5.2 EP Cartridge (PL 7.2)

Removal

1. Open the Duplex Unit.
2. Open the Left Upper Cover.



Do not attempt to remove the EP Cartridge without first opening the Left Upper Cover.

3. Open the Front Left Cover (Cover Assembly FL).
4. Pull up on the orange handle and slide the EP Cartridge half way out of the printer.
5. Hold on to the top handle and slide the EP Cartridge out of the printer.
6. If you are removing the EP Cartridge as part of another RRP, place the EP Cartridge in a covered box or cover it with a dark cloth to protect it from exposure to light.

Replacement

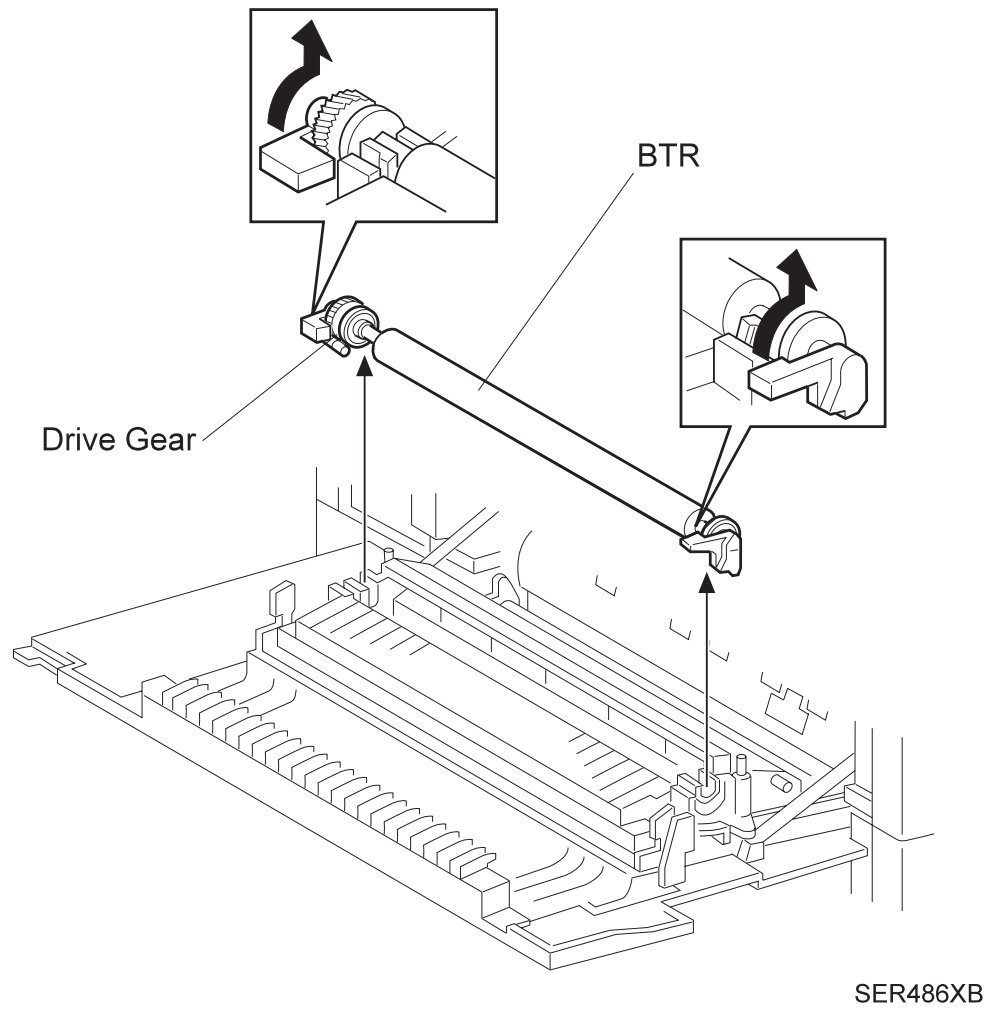
1. Open the Duplex Unit.
2. Open the Left Upper Cover.



Do not attempt to install the EP Cartridge without first opening the Left Upper Cover.

3. Open the Front Left Cover Assembly (Cover Assembly FL).
4. Hold the EP Cartridge by the top handle and carefully slide the EP Cartridge into the printer.
5. Release the top handle and allow it to fold out of the way, then slide the EP Cartridge the rest of the way into the printer.
6. Push firmly on the end of EP Cartridge to make sure it is correctly seated in the printer.
7. Hold the edges of the EP Cartridge and pull out, to make sure the EP Cartridge is latched in place.
Do not hold the handle when pulling out. You will release the EP Cartridge latch.
8. Close the Front Left Cover.
9. Close the Left Upper Cover
10. Close the Duplex Unit.

RRP 5.3 BTR Assembly (PL 7.2)



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RRP 5.3 BTR Assembly (PL 7.2)

Removal

1. Open the Left Upper Cover.
2. Face the left side of the printer.
3. Hold the rear BTR lever in your left hand and the front BTR lever in your right hand.
4. Rotate both levers away from you to unlock the BTR.
5. With both levers back, lift the BTR out of the Cover Assembly.



Do not touch the sponge roll surface of the BTR. Grease and dirt on, or physical damage to the BTR will effect print quality.

Replacement

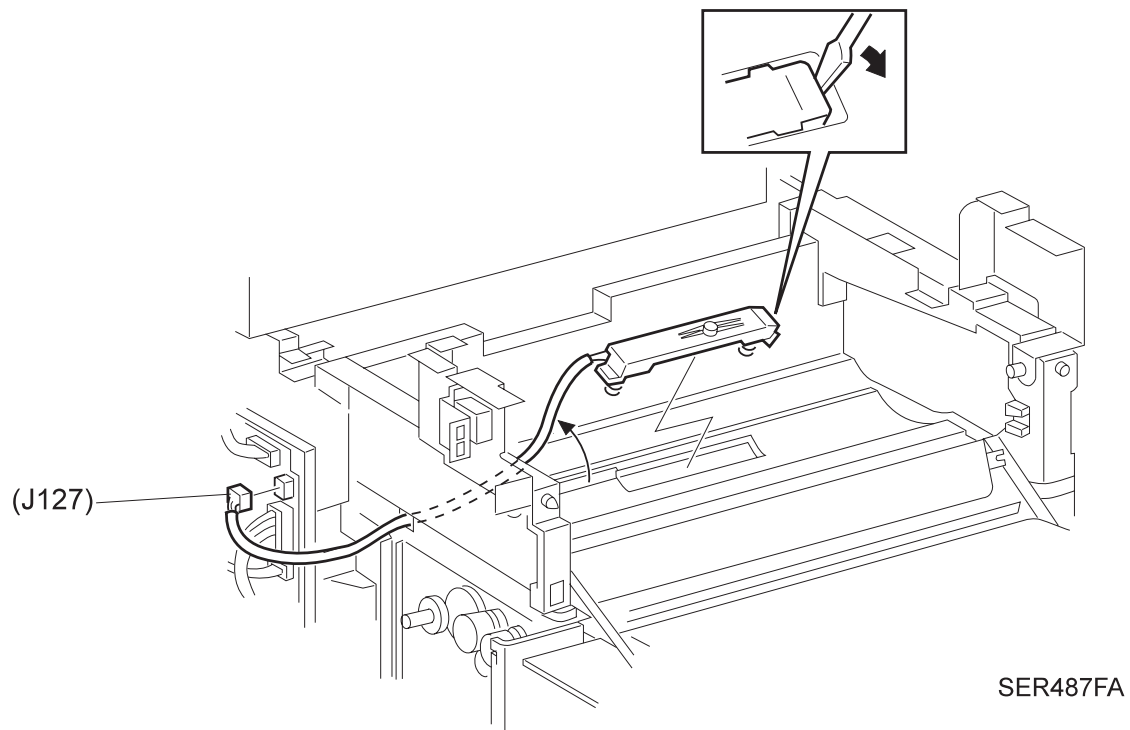
1. Open the Left Upper Cover Assembly.
2. Face the left side of the printer.
3. Hold the BTR by the end levers.



Do not touch the sponge roll surface of the BTR. Grease and dirt on, or physical damage to the BTR will effect print quality.

4. Position the BTR so the BTR gear on one end of the Roll is to the rear.
5. Press the ends of the BTR into the BTR Sleeves.
The BTR snaps into place.
6. Rotate both levers toward you to lock the BTR in place.
7. Close the Left Upper Cover.
8. After installing a new BTR connect the Control Panel to the MCU PWB and enter Diagnostic Mode. (Refer to *Section 8 Running Printer Diagnostics*).
9. Run Diagnostic Routine 30-1 to view the BTR usage log.
10. Reset the BTR usage log to 0 (zero).
11. Exit Diagnostic Mode.

RRP 5.4 Toner Sensor (PL 7.2)



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RRP 5.4 Toner Sensor (PL 7.2)

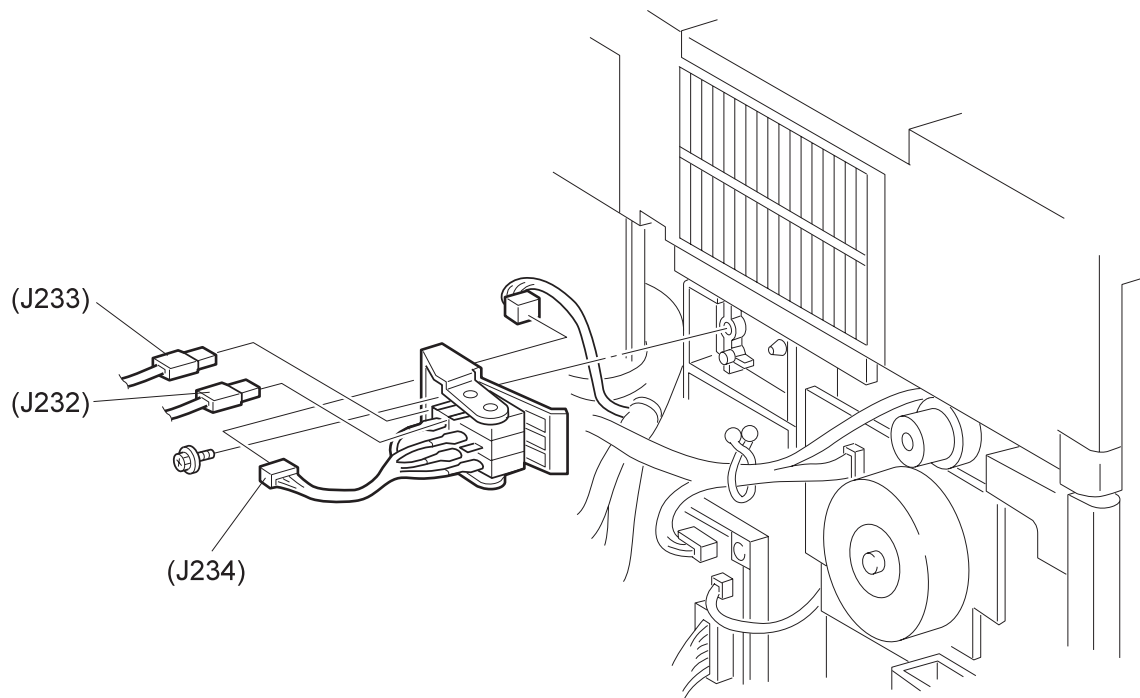
Removal

1. Remove the Rear Cover (RRP 1.3).
2. Disconnect P/J127 from the MCU PWB.
3. Open the Left Upper Cover.
4. Remove the EP Cartridge (RRP 5.2).
5. Use the flat blade of a screwdriver to pry up the front end of the Toner Sensor (refer to the figure).
6. When the front end is freed, remove the Sensor along with the attached wire harness.

Replacement

1. Reinstall the Toner Sensor and attached springs. (refer to the figure for correct positioning).
2. Route the attached wire harness along the channel and through the small opening in the rear of the frame.
3. Press the Toner Sensor into the cutout in the bottom of the EP Cartridge cavity.
4. Press and release the Toner Sensor to make sure it has a spring-action return.
5. Reconnect P/J127 to the MCU PWB.
6. Reinstall the Rear Cover (RRP 1.3).
7. Reinstall the EP Cartridge (RRP 5.2).
8. Close the Left Upper Cover.

RRP 5.5 CRU Interlock Switch (PL 7.2)



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RRP 5.5 CRU Interlock Switch (PL 7.2)

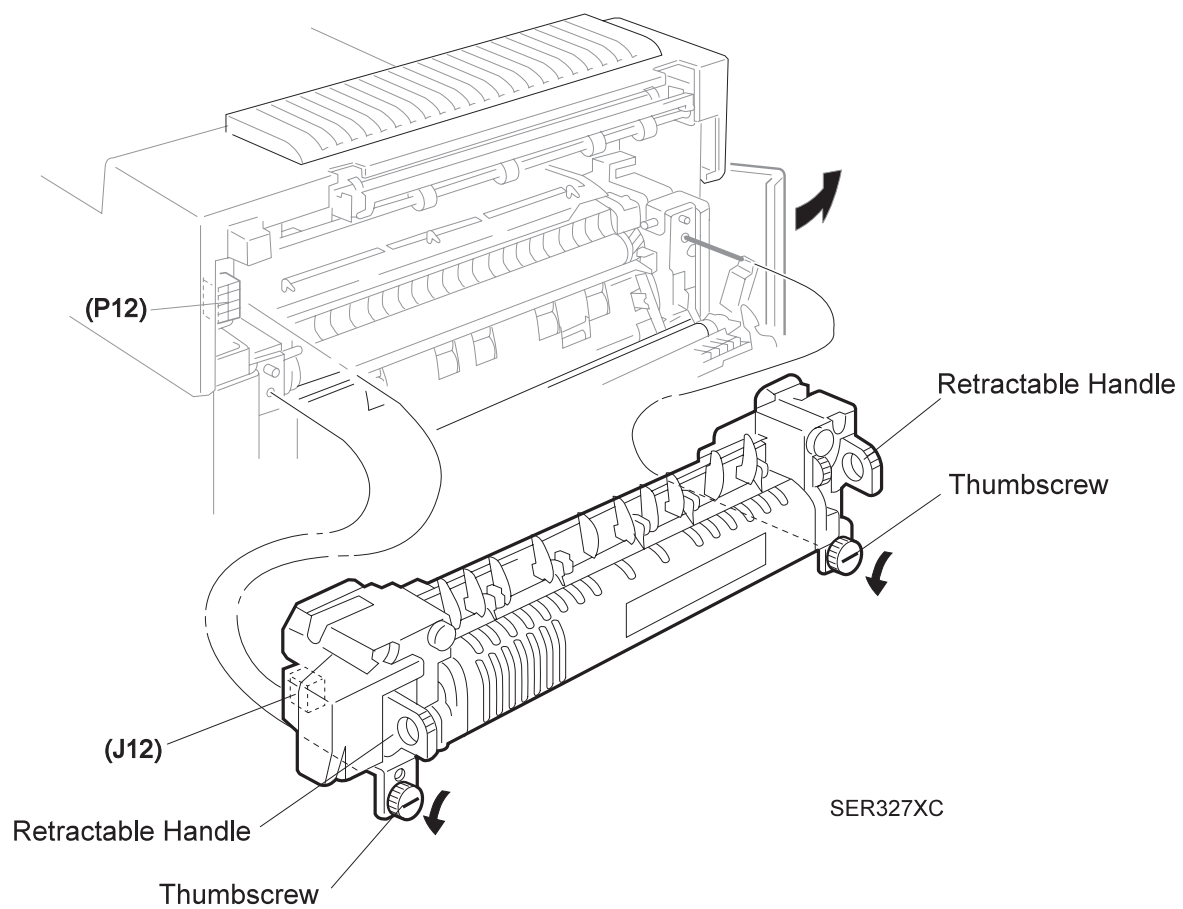
Removal

1. Remove the EP Cartridge (RRP 5.2).
2. Remove the Rear Cover (RRP 1.3).
3. Disconnect J232 and J233 from the CRU Interlock Switch.
4. Disconnect J234 from the Interlock Switch wire harness.
5. Remove the screw securing the CRU Interlock Switch to the printer frame, and remove the Switch.

Replacement

1. Line up the two positioning holes on the CRU Interlock Switch with the two position tabs on the printer frame.
2. Use one screw to secure the Switch to the frame.
3. Reconnect J234 to the Interlock Switch wire harness.
4. Reconnect J232 and J233 to the Interlock Switch.
5. Reinstall the Rear Cover (RRP 1.3).
6. Reinstall the EP Cartridge (RRP 5.2).

RRP 6.1 Fuser Assembly (PL 8.1)



SER327XC

RRP 6.1 Fuser Assembly (PL 8.1)



The Fuser is extremely hot. Switch off printer main power and wait at least thirty minutes for the Fuser to cool down before attempting to work on or remove the Fuser Assembly.

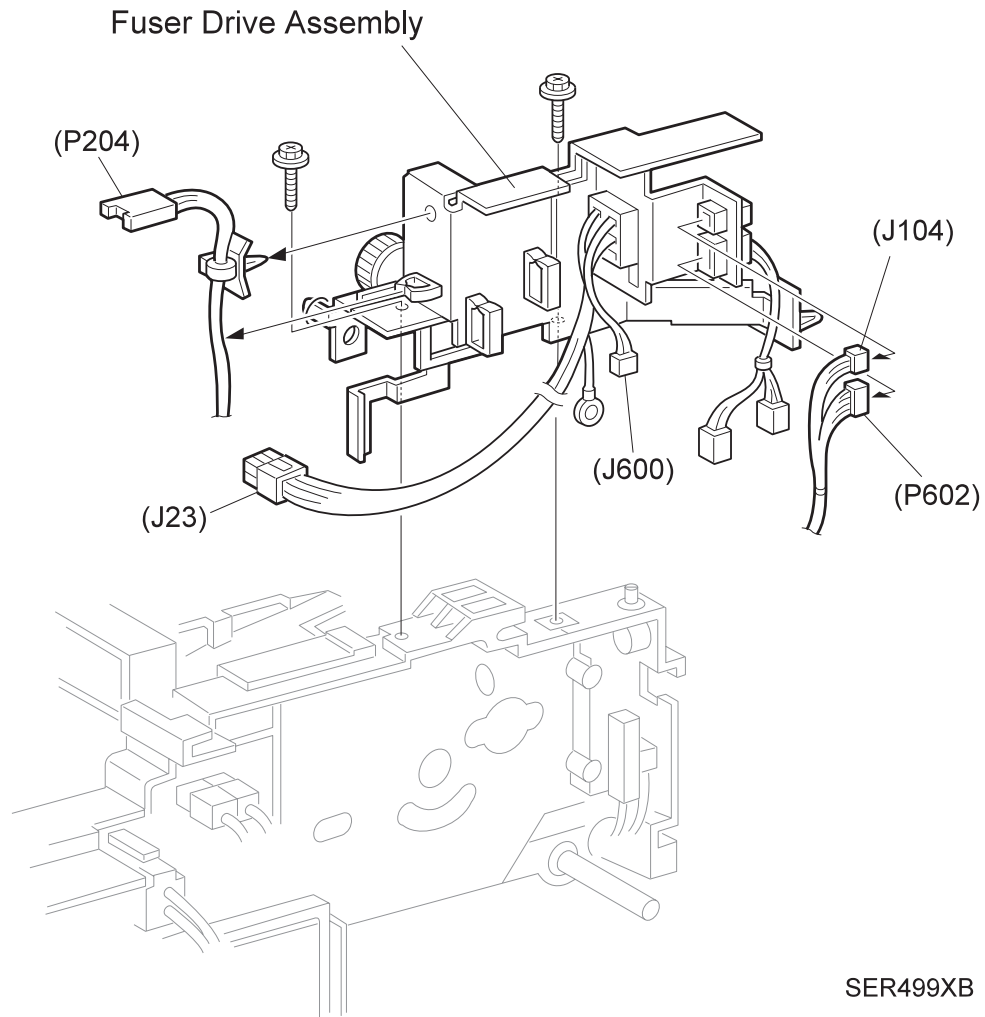
Removal

1. Open the Left Upper Cover.
2. Open the Left Front Cover.
3. Pull out the handles that are located on each end of the Fuser Assembly.
4. Loosen the two thumb screws that secure the Fuser Assembly to the printer frame.
5. Pull the Fuser out of the printer.

Replacement

1. Open the Left Upper Cover.
2. Open the Left Front Cover
3. Position the Fuser Assembly with J12 on the left end of the Assembly aligned with P12 mounted on the printer frame.
4. Hold on to the Fuser handles and slide the Fuser Assembly into the printer frame.
5. Firmly push the Fuser Assembly to make sure J12 is mated correctly with P12.
6. Tighten the two thumb screws to secure the Fuser Assembly to the printer frame.
7. Close the Left Upper Cover and the Left Front Cover.

RRP 6.2 Fuser Drive Assembly (PL 10.2)



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RRP 6.2 Fuser Drive Assembly (PL 10.2)

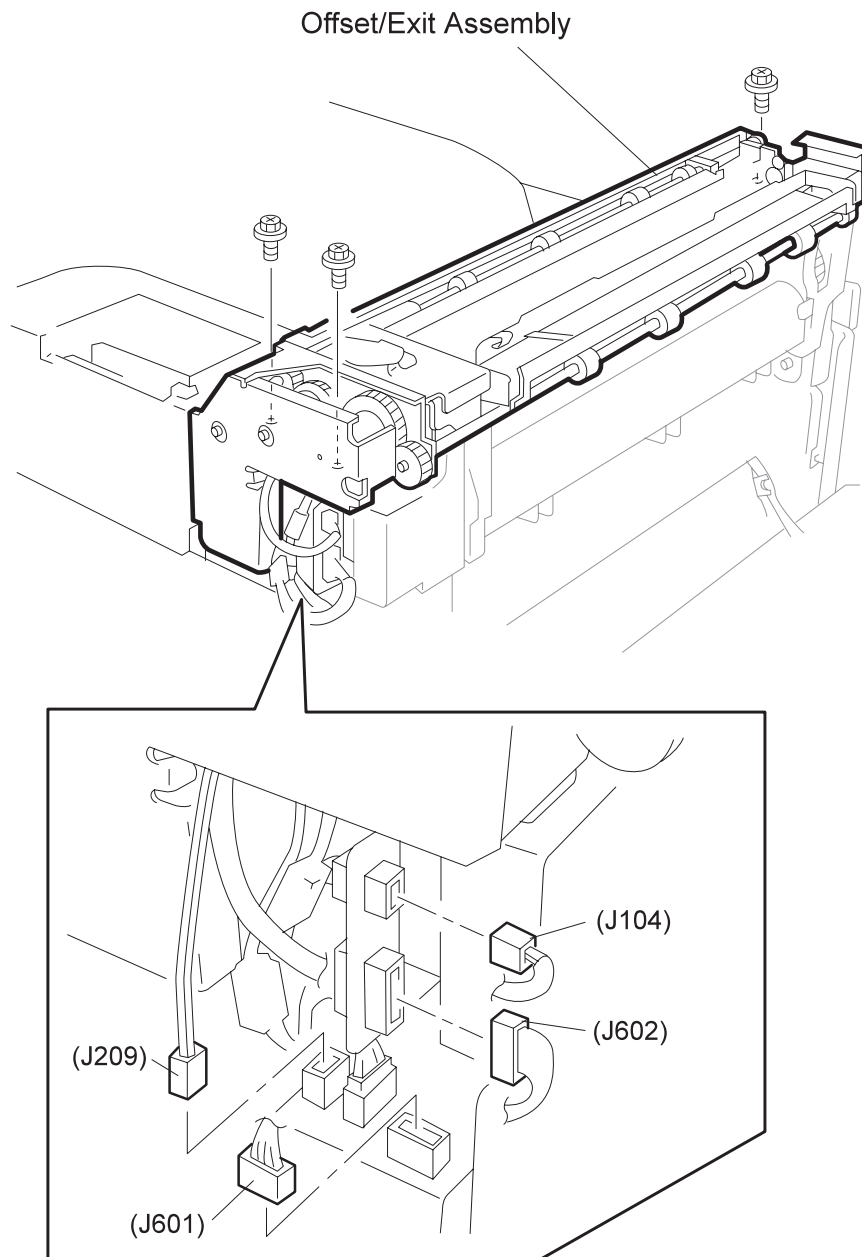
Removal

1. Remove the Fuser Assembly (RRP 6.1).
2. Remove the EP Cartridge (RRP 5.2).
3. Remove the Offset Unit Assembly (RRP 7.1).
4. Disconnect J23 from the AC Driver PWB and free the wire harness from the harness clips.
5. Disconnect FB (red wire) from the HVPS and free the wire harness from the harness clips.
6. Remove P204 wire harness from the Fuser Drive Assembly.
7. Disconnect J104, J600, and J602.
8. Remove the two screws securing the Fuser Drive Assembly to the printer frame, and lift the Assembly off of the frame.
9. Remove the screw securing the green ground wire to the printer frame.
10. Pull up and remove the Fuser Drive Assembly.

Replacement

1. Reinstall the Fuser Drive Assembly onto the printer frame. (Refer to the figure for correct positioning)
2. Align the Assembly so the screw holes and locating holes in the Assembly line up with the screw holes and locating tabs on the frame.
3. Use two screws to secure the Assembly to the frame.
4. Reinstall the green ground wire to the printer frame, and use one screw to secure the wire.
5. Reconnect J104, J600, and J602.
6. Reinstall P204 wire harness to the Fuser Drive Assembly.
7. Reconnect FB (red wire) to the HVPS and secure the wire harness under the harness clips.
8. Reconnect J23 to the AC Driver PWB and secure the wire harness under the harness clips.
9. Reinstall the Offset Unit Assembly (RRP 7.1).
10. Reinstall the EP Cartridge (RRP 5.2).
11. Reinstall the Fuser Assembly (RRP 6.1).

RRP 7.1 Offset/Exit Assembly (PL 9.1 ~ 9.3)



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RRP 7.1 Offset/Exit Assembly (PL 9.1 ~ 9.3)

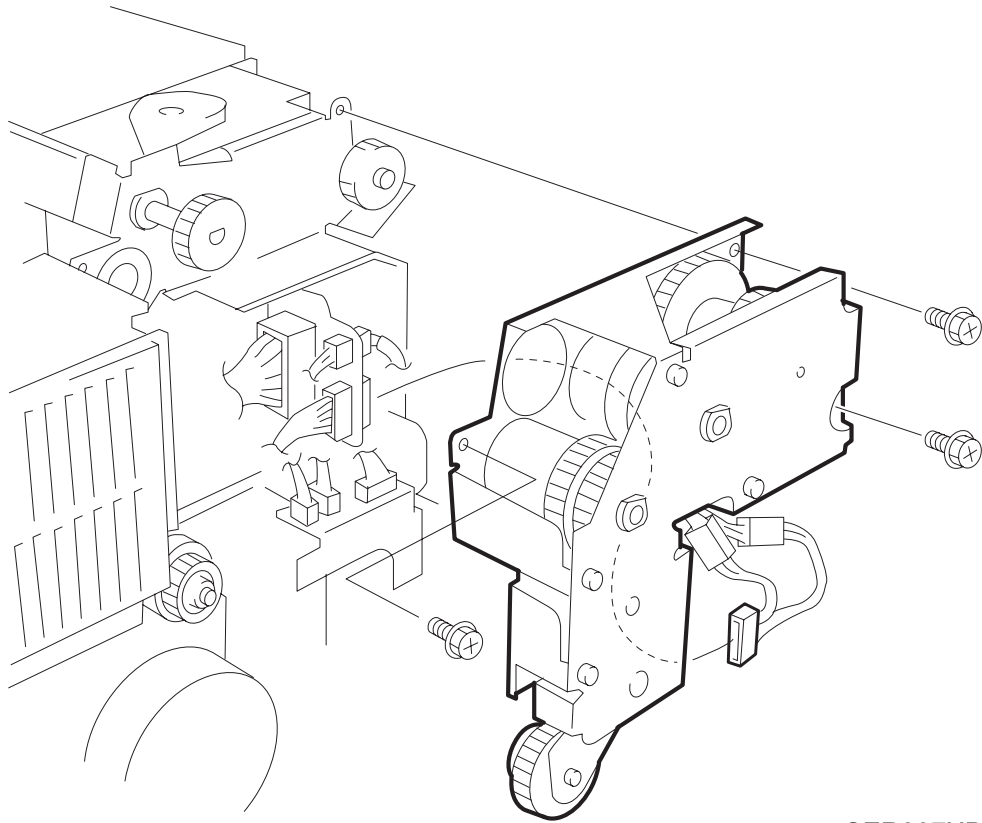
Removal

1. Remove the Fuser Full Cover (RRP 1.1).
2. Remove the Rear Cover Assembly (RRP 1.3).
3. Open the Duplex Unit.
4. Open the Upper Left Cover.
5. Remove J104, J209, J601, and J602 from the Offset Unit Assembly.
6. Remove the three screws (one screw at the front of the Assembly, next to the solenoid, and two screws at the rear of the Assembly) securing the Offset Unit to the printer frame.
7. Lift the Offset Unit up and off of the printer frame.

Replacement

1. Open the Duplex Unit.
2. Open the Upper Left Cover.
3. Reinstall the Offset Unit onto the printer frame.
4. Use three screws (one screw at the front of the Assembly, next to the solenoid, and two screws at the rear of the Assembly) to secure the Offset Unit to the printer frame.
5. Reconnect J104, J209, J601, and J602 to the Offset Unit Assembly.
6. Reinstall the Rear Cover Assembly (RRP 1.3).
7. Reinstall the Fuser Full Cover (RRP 1.1).

RRP 7.2 Exit Drive Assembly (PL 9.4)



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RRP 7.2 Exit Drive Assembly (PL 9.4)

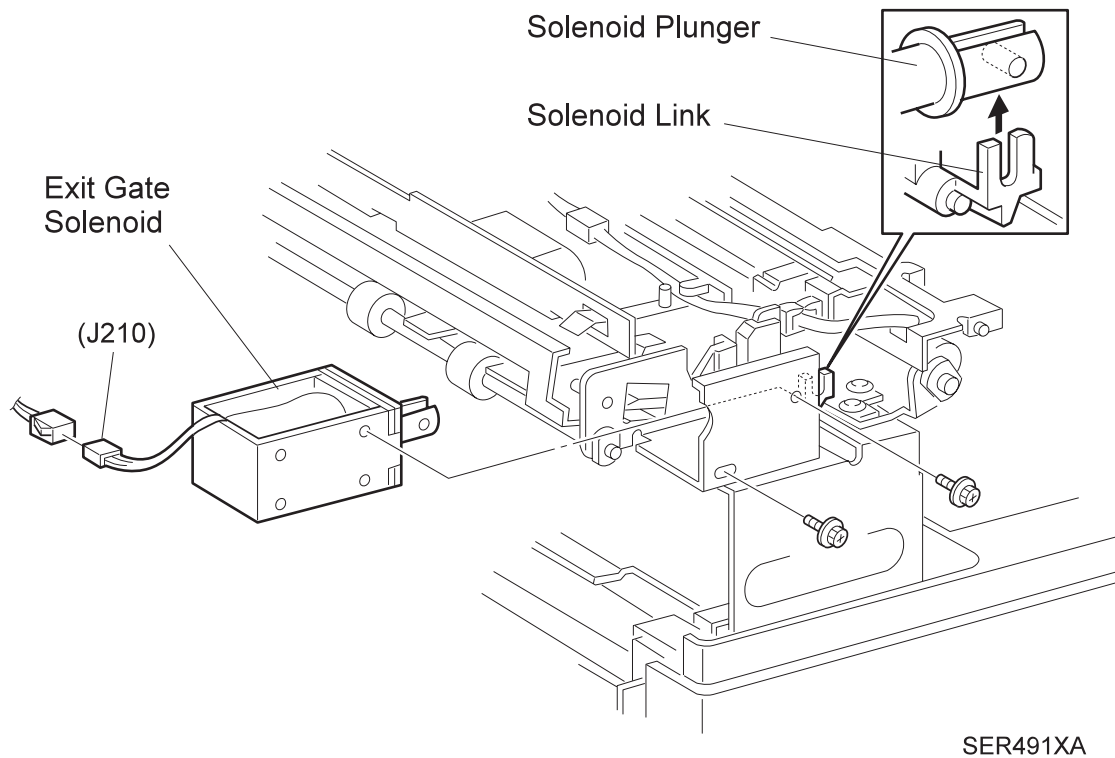
Removal

1. Remove the Offset Unit Assembly (RRP 7.1).
2. Remove the three screws securing the Exit Drive Assembly to the Offset Unit Assembly.
3. Pull the Exit Drive Assembly straight out and away from the Offset Unit.

Replacement

1. Align the Exit Drive Assembly with the Offset Unit Assembly so the white drive gear and shaft fit through the corresponding opening in the Exit Drive Assembly.
2. Press the Exit Drive Assembly onto the Offset Unit, slightly repositioning the Assembly so the positioning pin on the upper right side of the Offset Unit fits through the corresponding hole in the Exit Drive Assembly.
Make sure you do not trap any wire harnesses between the Exit Drive Assembly and the Offset Unit Assembly.
3. Use three screws to secure the Exit Drive Assembly to the Offset Unit Assembly.
4. Reinstall the Offset Unit Assembly (RRP 7.1).

RRP 7.3 Exit Gate Solenoid (PL 9.1)



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RRP 7.3 Exit Gate Solenoid (PL 9.1)

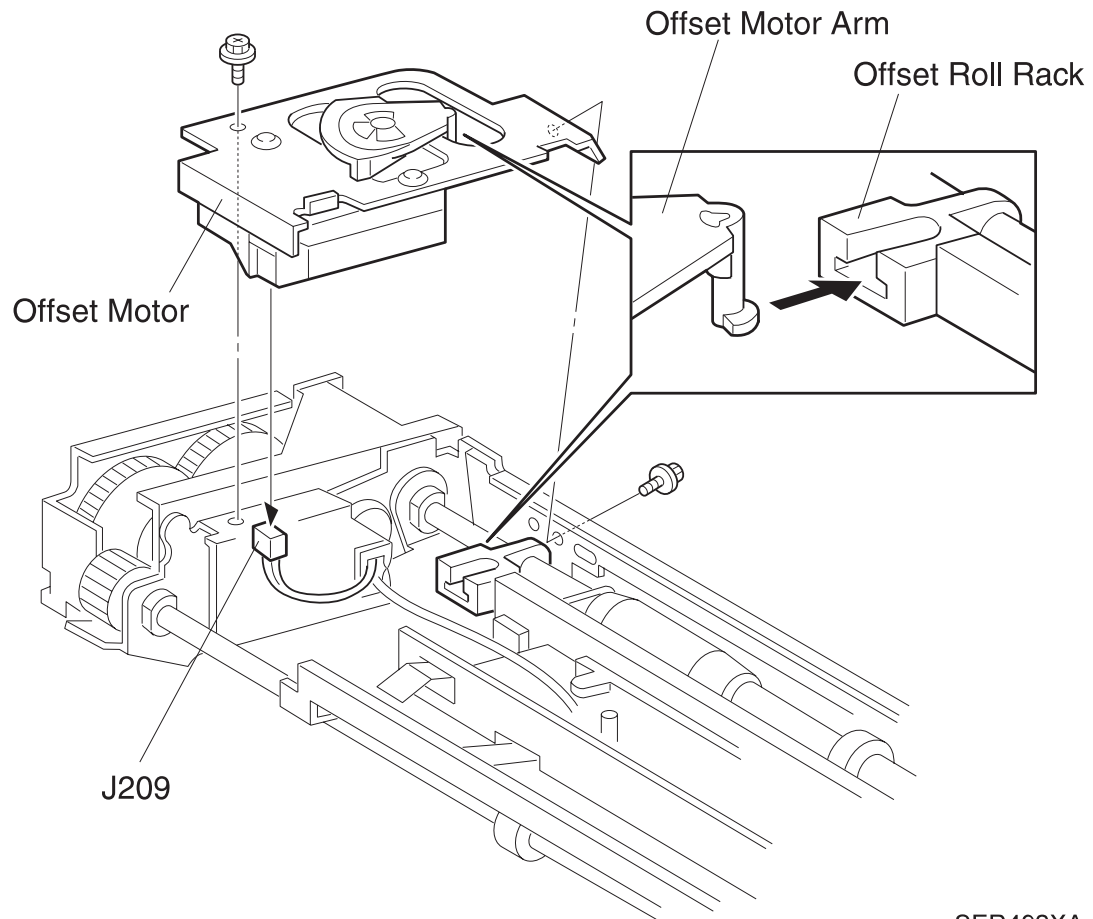
Removal

1. Remove the Fuser Full Cover (RRP 1.1).
2. Disconnect J210 from the Exit Gate Solenoid.
3. Remove the wire harness from the harness clips.
4. Remove the two screws securing the Exit Gate Solenoid to the Offset Assembly, and remove the Solenoid.

Replacement

1. Position the Exit Gate Solenoid so the wire harness faces up.
2. Reinstall the Solenoid onto the Offset Assembly, making sure the crossbar of the solenoid plunger latches onto the Solenoid Link.
3. Use two screws to secure the Solenoid to the Assembly.
4. Reconnect J210.
5. Secure the wire harness to the harness clips.
6. Reinstall the Fuser Full Cover (RRP 1.1).

RRP 7.4 Offset Motor (PL 9.1)



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RRP 7.4 Offset Motor (PL 9.1)

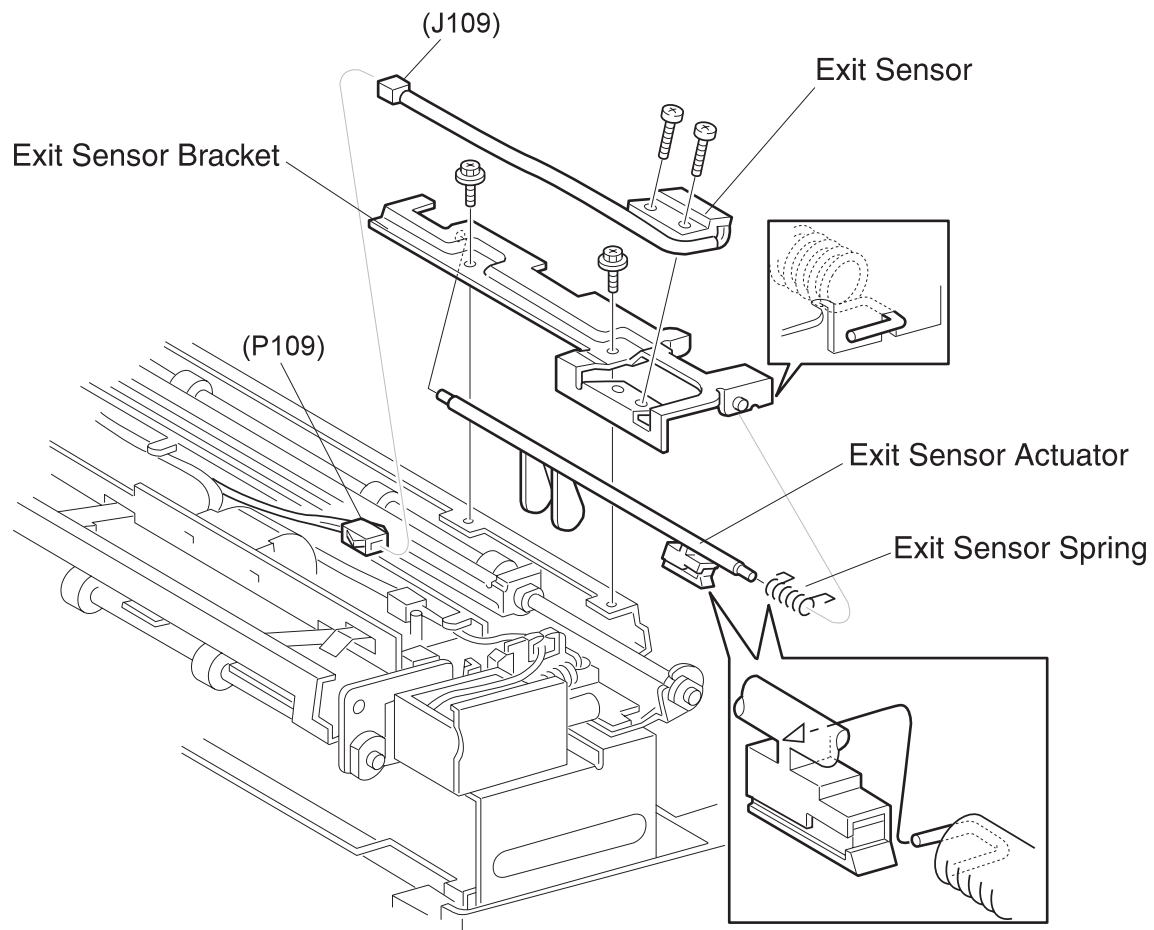
Removal

1. Remove the Fuser Full Cover (RRP 1.1).
2. Remove the two screws securing the Motor to the Offset Assembly.
3. Lift the Motor off of the Assembly and free the Motor arm from the Offset Roll Rack.
4. Disconnect J209 from the Offset Motor.

Replacement

1. Insert the Motor arm into the Offset Roll Rack.
2. Reconnect J209 to the Offset Motor.
3. Reinstall the Offset Motor onto the Offset Assembly.
4. Use two screws to secure the Motor to the Assembly.
5. Reinstall the Fuser Full Cover (RRP 1.1).

RRP 7.5 Face Up Exit Sensor (PL 9.1)



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RRP 7.5 Face Up Exit Sensor (PL 9.1)

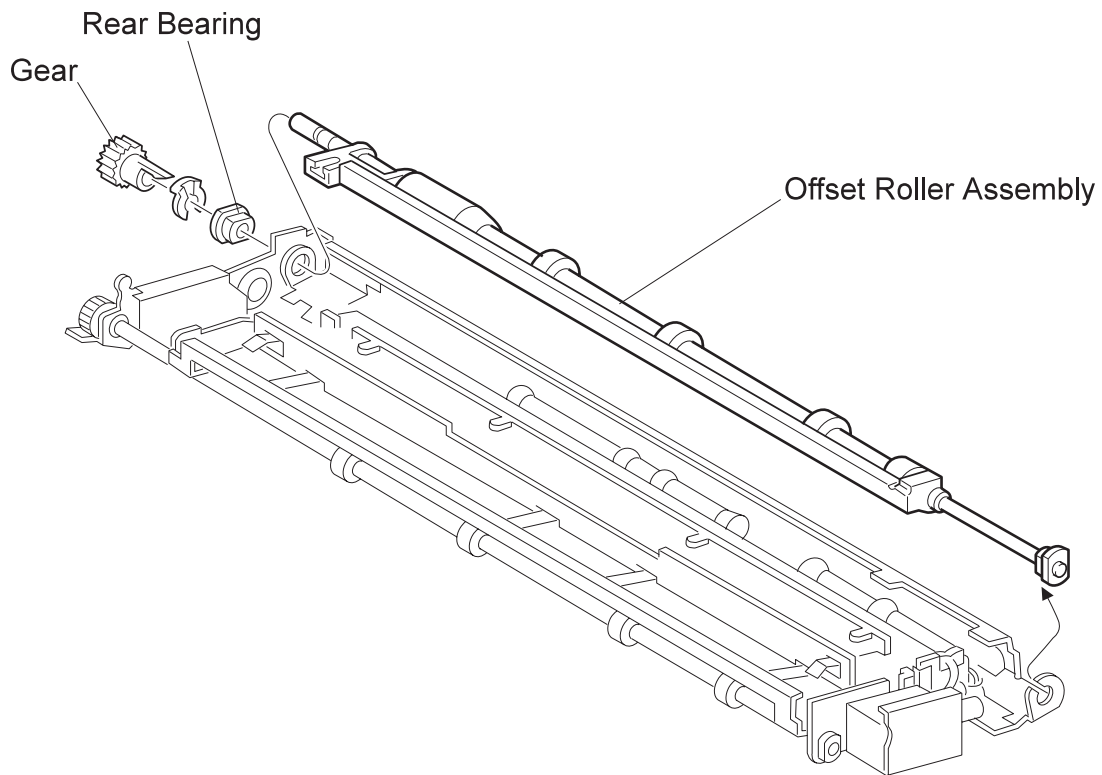
Removal

1. Remove the Fuser Full Cover (RRP 1.1).
2. Disconnect J109.
3. Remove the two screws securing the Face Up Exit Sensor to the Exit Sensor Bracket and remove the Sensor.
4. Remove the two screws securing the Exit Sensor Bracket to the Lower Chute, and remove the Bracket.
5. Unhook the Exit Sensor Spring from the Bracket, and remove the Exit Sensor Actuator.

Replacement

1. Reinstall the Exit Sensor Actuator onto Exit Sensor Bracket.
2. Hook the Exit Sensor Spring onto the Bracket.
3. Reinstall the Bracket onto the Lower Chute, and use two screws to secure the Bracket.
4. Reinstall the Face Up Exit Sensor onto the Bracket, and use two screws to secure the Sensor.
5. Reconnect J109.
6. Reinstall the Fuser Full Cover (RRP 1.1).

RRP 7.6 Offset Roller Assembly (PL 9.2)



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RRP 7.6 Offset Roller Assembly (PL 9.2)

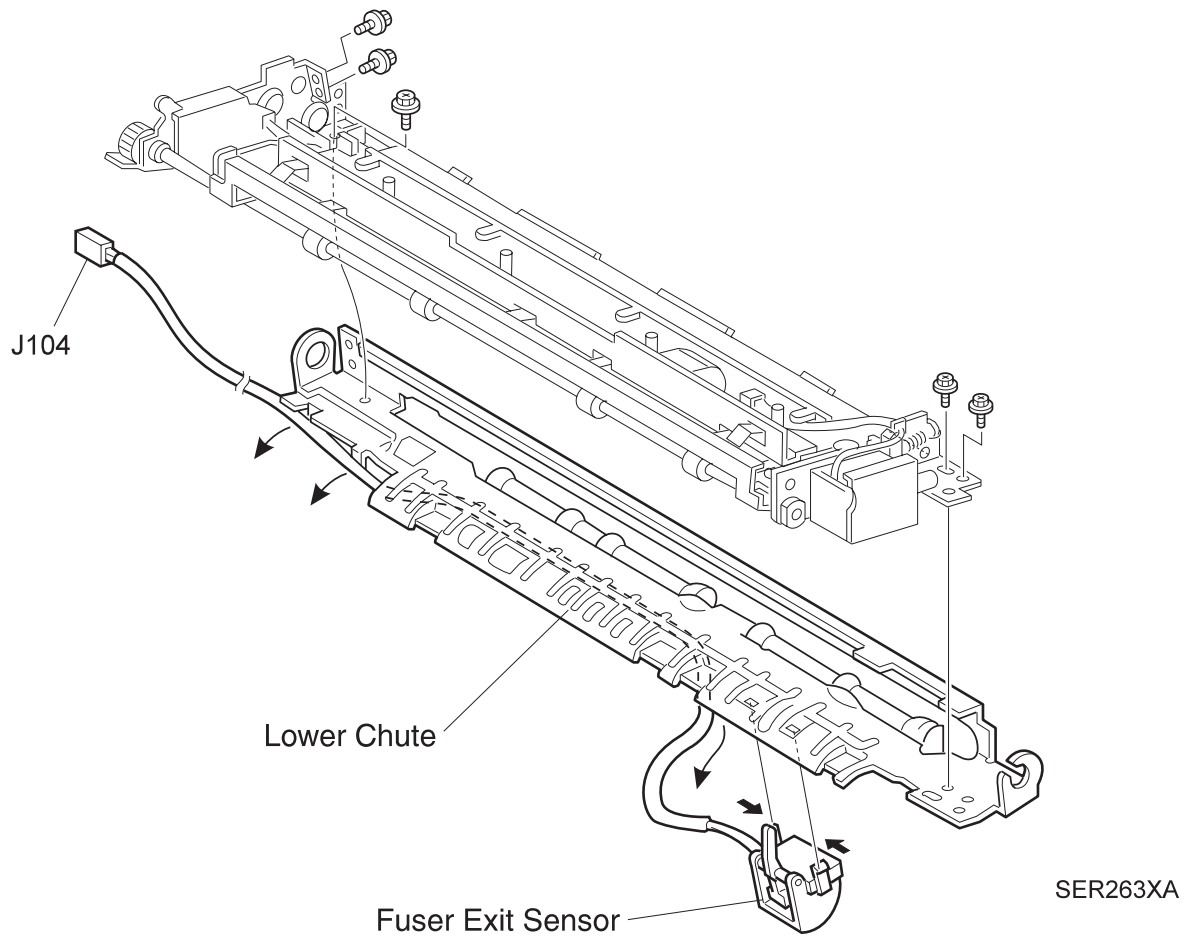
Removal

1. Remove the Offset Drive Assembly (RRP 7.2)
2. Remove the Offset Motor (RRP 7.4).
3. Remove the Face Up Exit Sensor (RRP 7.5).
4. Remove the Gear located at the end of the Roller Assembly.
5. Remove the K clip securing the Roller shaft to the rear bearing.
6. Slide the bearing out of the Offset Assembly frame.
7. Slide the front bearing out the Assembly frame, and remove the Offset Roller Assembly.

Replacement

1. Slide the rear of the Roller shaft through the rear bearing cutout in the Assembly frame.
2. Insert the front bearing, still attached to the front of the shaft, into the front bearing cutout in the Assembly frame.
3. Use a K clip to secure the shaft to the rear bearing.
4. Reinstall the Gear onto the rear of the shaft.
The Gear snaps into place.
5. Reinstall the Face Up Exit Sensor (RRP 7.5).
6. Reinstall the Offset Motor (RRP 7.4).
7. Reinstall the Offset Drive Assembly (RRP 7.2).

RRP 7.7 Lower Chute Assembly (PL 9.1)



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RRP 7.7 Lower Chute Assembly (PL 9.1)

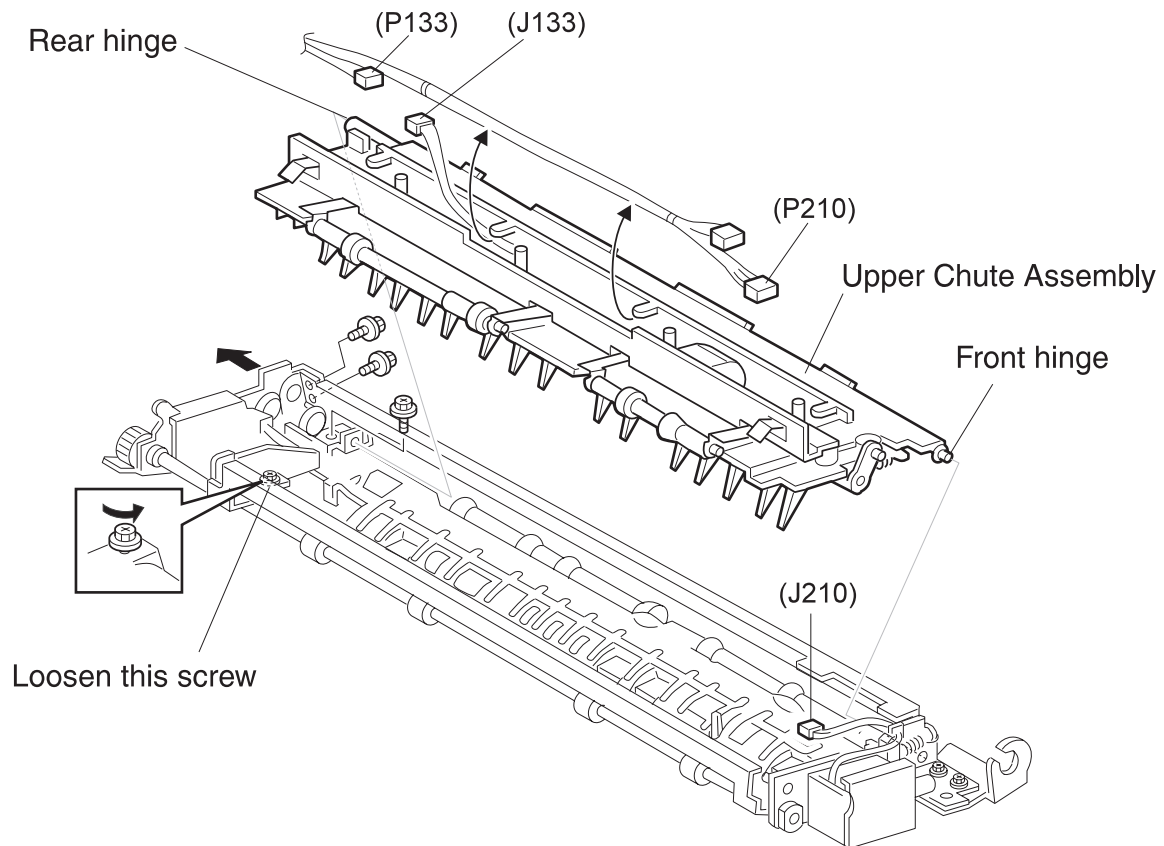
Removal

1. Remove the Offset Roller Assembly (RRP 7.6).
2. Remove the five screws securing the Lower Chute to the Exit Assembly frame, and separate the Lower Chute from the frame.
3. Release J104 wire harness from the harness clips.
4. Squeeze the latches to unlock the Fuser Exit Sensor, and remove the Sensor from the Lower Chute.

Replacement

1. Reinstall the Fuser Exit Sensor by pressing the Sensor latches into the cutouts in the Lower Chute.
Make sure you install the Sensor with the wire harness positioned to the rear of the Lower Chute, and the Sensor actuator moving freely through the cutout below the Sensor.
2. Secure J104 wire harness under the harness clips located on the Lower Chute.
3. Reinstall the Lower Chute to the Exit Assembly frame.
4. Use five screws to secure the Lower Chute.
5. Reinstall the Offset Roller Assembly (RRP 7.6).

RRP 7.8 Upper Chute Assembly (PL 9.3)



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RRP 7.8 Upper Chute Assembly (PL 9.3)

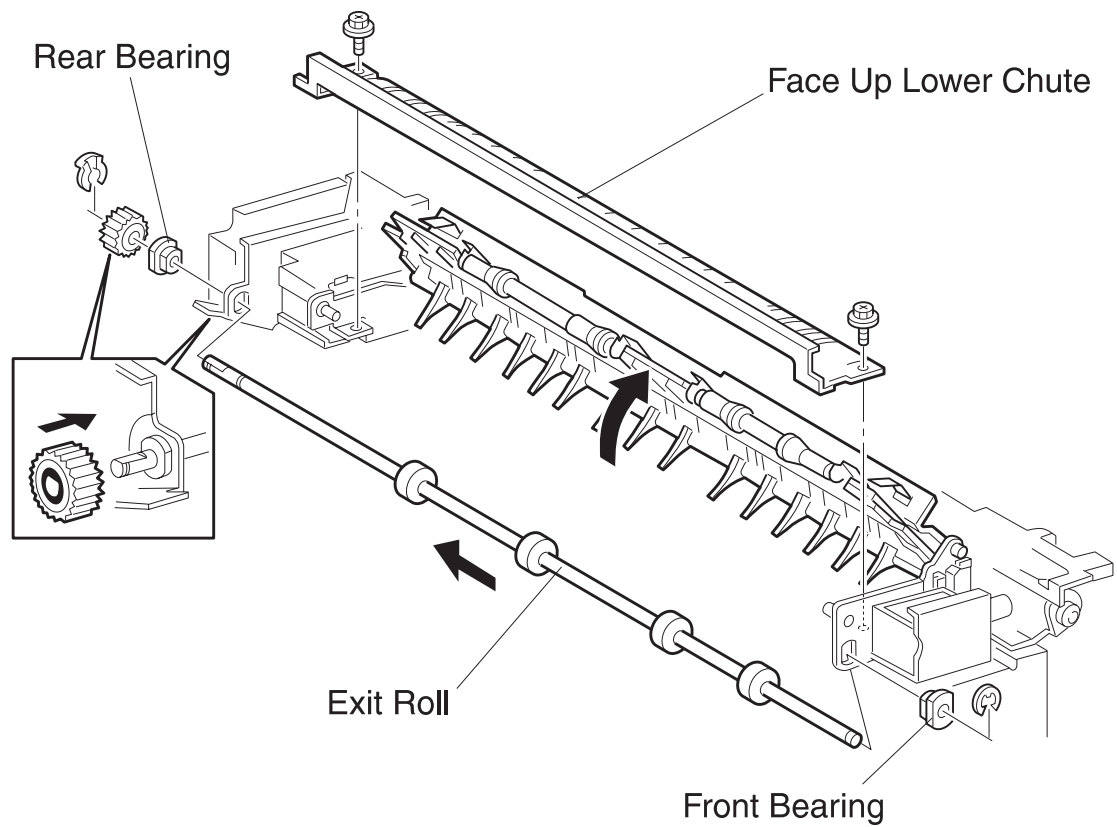
Removal

1. Remove the Offset Roller Assembly (RRP 7.6).
2. Disconnect P/J 133 and free the wire harness from the harness clips.
3. Disconnect P/J 210 and free the wire harness from the harness clips.
4. Open the Upper Chute Assembly and loosen, do not remove, the rear screw securing the Face Up Lower Chute to the frame.
5. Remove the three rear screws that secure the Lower Chute to the frame.
6. Carefully pull the frame far enough to the rear to free the rear hinge of the Upper Chute.
7. Pull the Upper Chute to the rear and free the front hinge and remove the Upper Chute Assembly.

Replacement

1. Reinstall the front hinge of the Upper Chute Assembly into the cutout at the front of the frame.
2. Carefully pull the frame far enough to the rear so you can slip the rear hinge of the Upper Chute into the cutout at the rear of the frame.
3. Use three screws to secure the Lower Chute to the frame.
4. Open the Upper Chute Assembly and tighten the rear screw securing the Face Up Lower Chute to the frame.
5. Reconnect P/J 210 and route the wire harness under the harness clips.
6. Reconnect P/J 133 and route the wire harness under the harness clips.
7. Reinstall the Offset Roller Assembly (RRP 7.6).

RRP 7.9 Exit Roll Assembly (PL 9.2)



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RRP 7.9 Exit Roll Assembly (PL 9.2)

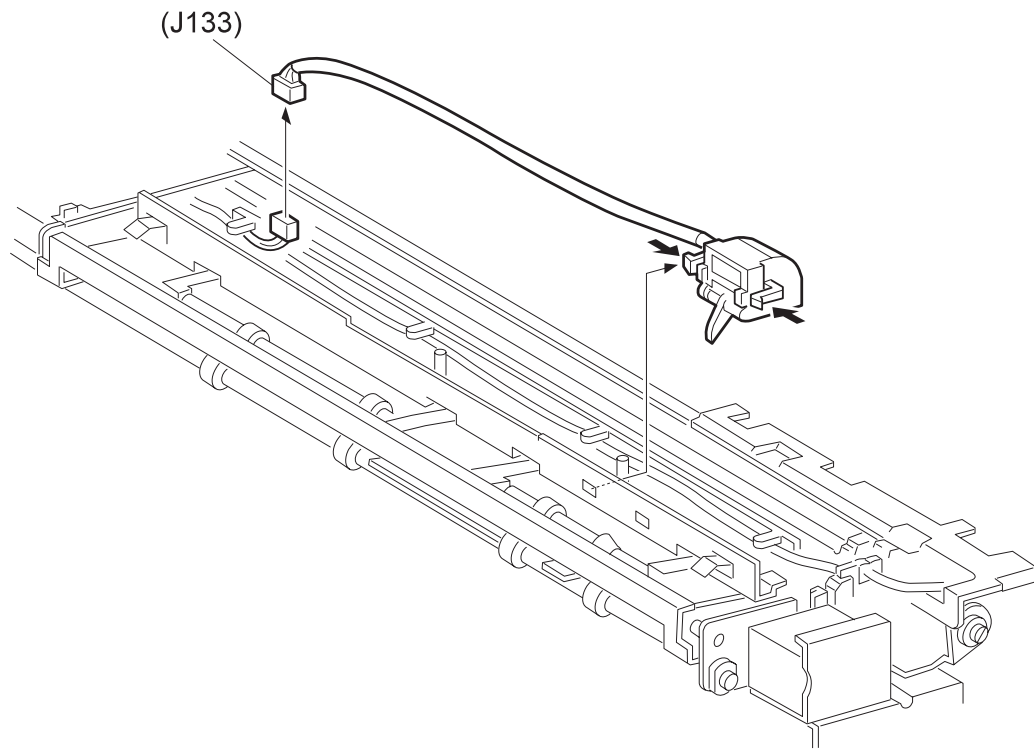
Removal

1. Remove the Exit Drive Assembly (RRP 7.2).
2. Remove the two screws securing the Face Up Lower Chute to the Assembly frame, and remove the Chute.
3. Remove the K clip securing the Gear located at the rear of the Exit Roll shaft, and remove the Gear and rear bearing.
4. Remove the E ring securing the front of the Exit Roll shaft to the Assembly frame, and remove the front bearing.
5. Slide the shaft to the rear, and remove the shaft from the Assembly.

Replacement

1. Reinstall the Exit Roll Assembly by sliding the rear of the shaft through the bearing cutout at the rear of the Assembly frame.
2. Slide the front of the shaft into the bearing cutout at the front of the Assembly frame.
3. Reinstall both front and rear bearings.
4. Use an E ring to secure the front of the shaft.
5. Slide the Gear onto the rear of the shaft and use a K clip to secure the Gear.
6. Reinstall the Face Up Lower Chute, and use two screws to secure it to the Assembly frame.
7. Reinstall the Exit Drive Assembly (RRP 7.2).

RRP 7.10 Full Stack Sensor (PL 9.3)



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RRP 7.10 Full Stack Sensor (PL 9.3)

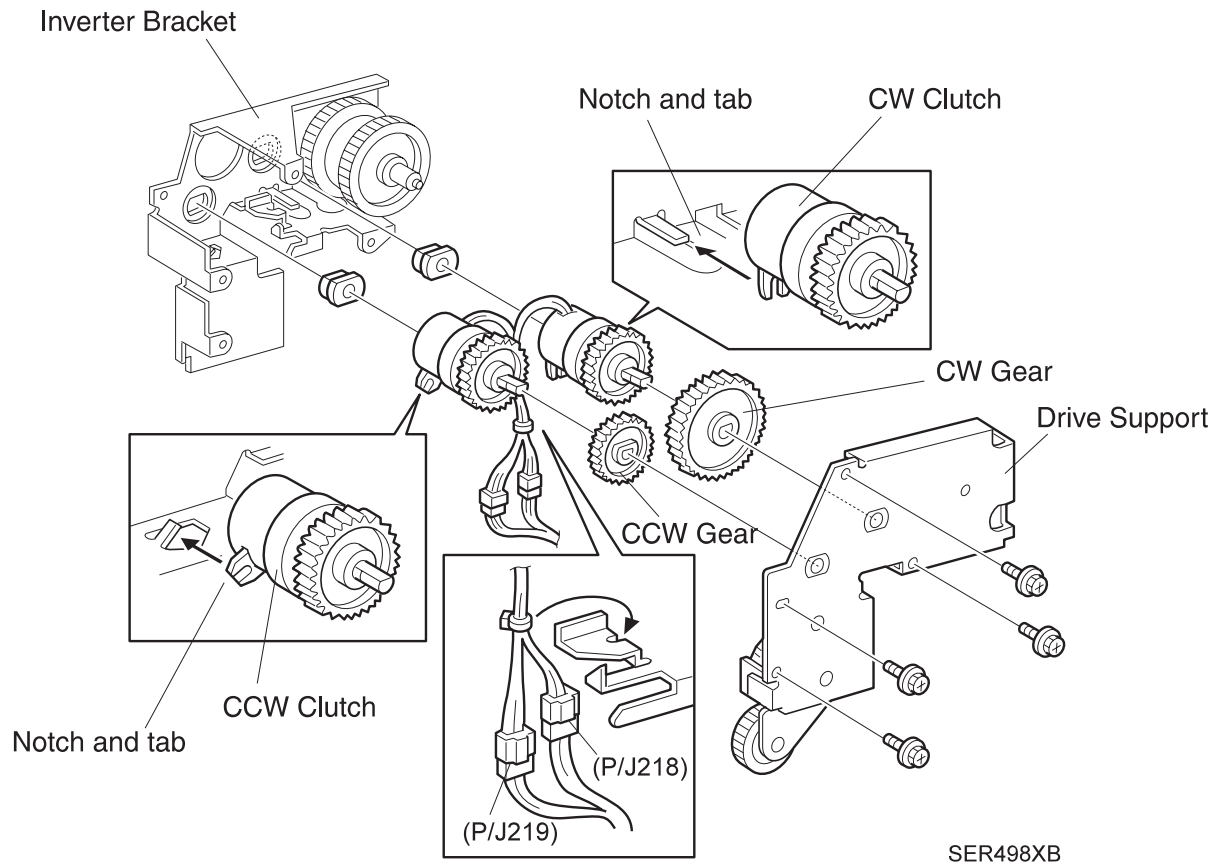
Removal

1. Remove the Fuser Full Cover (RRP 1.1).
2. Disconnect J133 and remove the wire harness from the harness clips.
3. Squeeze the latches to unlock the Full Stack Sensor, and remove the Sensor from the Offset Assembly.

Replacement

1. Reinstall the Full Stack Sensor by pressing the Sensor latches into the cutouts in the Offset Assembly.
Make sure you install the Sensor with the wire positioned to the rear of the Offset Assembly, and the Sensor actuator moving freely through the cutout below the Sensor.
2. Reconnect J133 and secure the wire harness under the harness clips.
3. Reinstall the Fuser Full Cover (RRP 1.1).

RRP 7.11 Inverter Clutches (PL 9.4)



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RRP 7.11 Inverter Clutches (PL 9.4)

Removal

1. Remove the Exit Drive Assembly (RRP 7.2).
2. Remove the four screws securing the Drive Support to the Inverter Bracket, and lift the Support off of the Bracket.
3. Disconnect P/J 218 and P/J 219, and free the wire harness from the harness clips.
4. Slide the CCW Gear off of the CCW Clutch.
5. Slide the CW Gear off of the CW Clutch.
6. Lift the CCW Clutch off of the bearing, and remove the Clutch.
7. Lift the CW Clutch off of the bearing, and remove the Clutch.

Replacement

1. Reinstall the two bearings into the cutouts in the Inverter Bracket.
2. Position the CW Clutch so the gear faces away from the Bracket, and insert the shaft at the rear of the Clutch into the bearing.
Make sure the notch in the Clutch hooks onto the tab on the Bracket. (Refer to the figure for correct positioning).
3. Position the CCW Clutch so the gear faces away from the Bracket, and insert the shaft at the rear of the Clutch into the bearing.
Make sure the notch in the Clutch hooks onto the tab on the Bracket. (Refer to the figure for correct positioning).
4. Reinstall the CW Gear onto the CW Clutch shaft.
5. Reinstall the CCW Gear on to the CCW Clutch shaft.
6. Route the wire harness under the harness clips and reconnect P/J 218 and P/J 219.
7. Carefully reinstall the Drive Support onto the Inverter Bracket, making sure the Clutch shafts fit into the bearings in the Support.
8. Use four screws to secure the Drive Support to the Inverter Bracket.
9. Reinstall the Exit Drive Assembly (RRP 7.2).

RRP 8.1 Main Drive Assembly (PL 10.1)

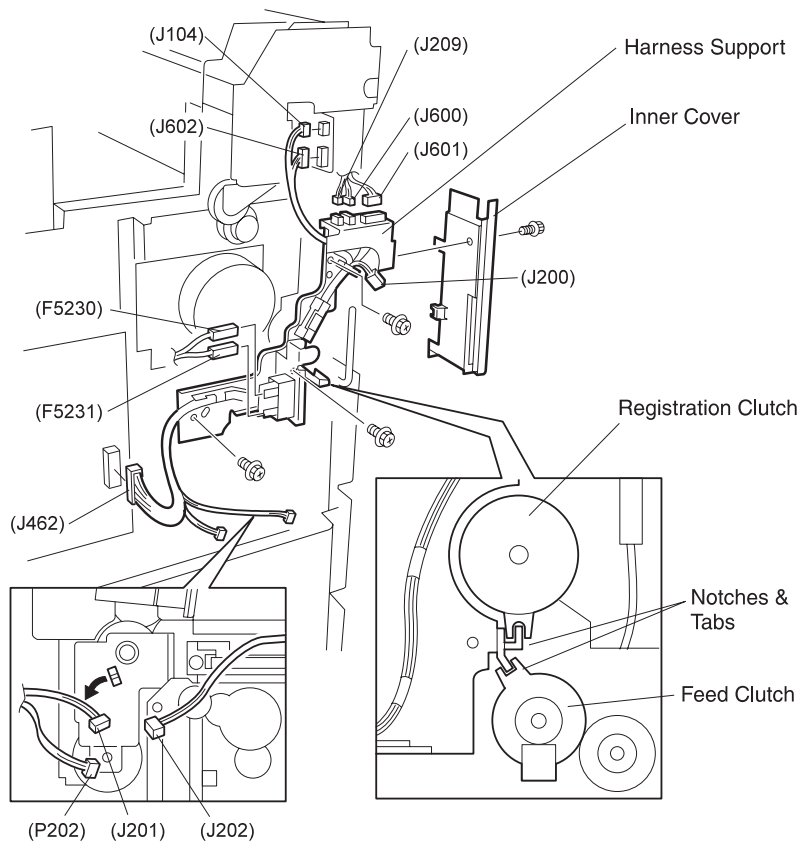
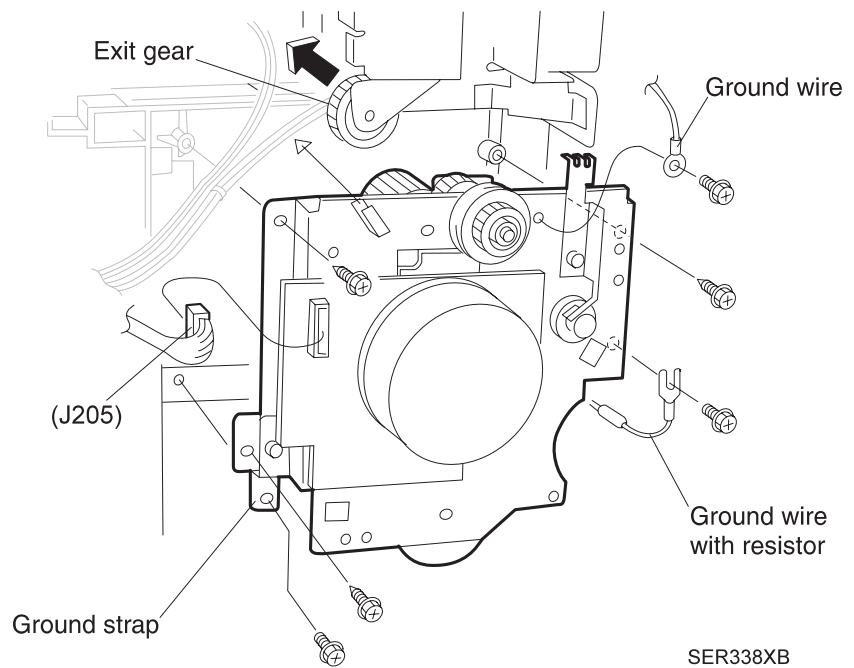


Figure 1

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Figure 2



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RRP 8.1 Main Drive Assembly (PL 10.1)

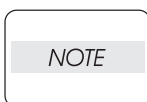
Removal

1. Remove the EP Cartridge (RRP 5.2).



Do not attempt to remove the Main Drive Assembly without first removing the EP Cartridge.

2. Remove the Rear Cover (RRP 1.3).
3. Open the Left Upper Cover.
4. Remove the Left Cover Interlock Switch Assembly (RRP 9.6).
5. Remove the screw securing the Inner Cover to the printer frame, and remove the Inner Cover (Figure 1).
6. Disconnect J205 from the Main Motor PWB.
7. Release the wire harness that is located just above the Main Motor PWB from the wire clip and move the harness out of the way.
8. Remove the screw securing the green ground wire to the Main Drive Assembly, and move the ground wire out of the way (Figure 2).
9. Disconnect P/J 462 from the MCU PWB.
10. Disconnect P/J 202, J209, J600, and J601.
11. Remove the three screws securing the Harness Support to the Main Drive Assembly, and move the Harness Support and attached harness out of the way.
12. Remove the three self-tapping screws securing the Main Drive Assembly to the printer frame.
The bottom right screw also secures a ground wire (with attached resistor) to the printer frame.
13. Remove the screw that secures a ground strap at the bottom left of the Main Drive Assembly.
14. Lift the Exit Gear out of the way, and pull the Main Drive Assembly straight back and out of the printer frame.



If you are having difficulty removing the Main Drive Assembly, check to make sure there are no wire harnesses in the way, the Registration Clutch location notch is not in the way, and that the drive pin on the Drive Assembly is in the center of the cutout in the printer frame.

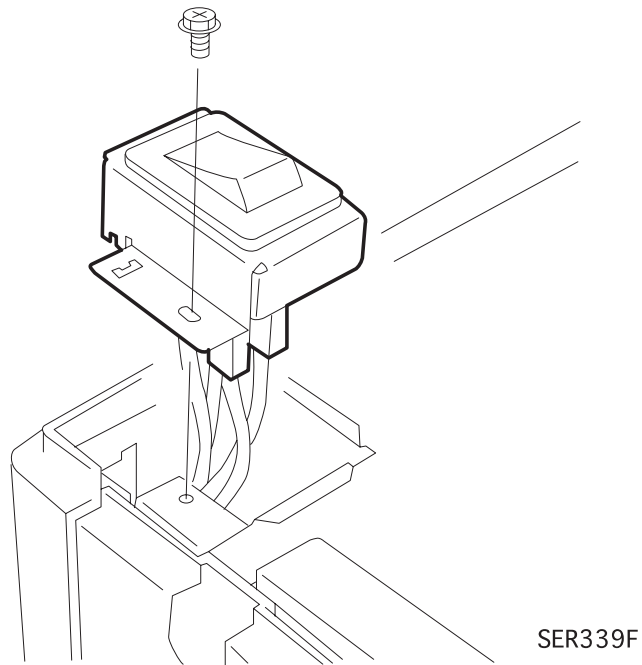
RRP 8.1 Main Drive Assembly (PL 10.1)

RRP 8.1 Main Drive Assembly (PL 10.1)

Replacement

1. Remove the EP Cartridge (RRP 5.2).
2. Open the Left Upper Cover.
3. Push all of the wire harnesses out of the way.
4. Rotate the Registration Clutch and the Feed Clutch so the location notches are not in the way of Main Drive installation.
5. Lift the Exit Gear out of the way and slide the drive pin at the back of the Main Drive Assembly into the large opening in the printer frame.
6. Make sure there are no wire harnesses trapped between the Drive Assembly and the printer frame.
7. Reach around through the open Left Upper Cover and take hold of the drive pin. Center the pin in the printer frame opening while you push the Drive Assembly against the frame.
8. Use one screw to secure the ground strap at the bottom left of the Main Drive Assembly.
9. Use a self-tapping screw to secure the ground wire with the attached resistor and the Main Drive Assembly to the printer frame.
10. Use three self-tapping screws to finish securing the Main Drive Assembly to the printer frame.
11. After securing the Main Drive Assembly, wiggle the Assembly to make sure it is firmly in place.
12. Position the Harness Support against the Main Drive Assembly.
13. Rotate the Registration Clutch and in the Feed Clutch so the slots in the Clutches line up with the key on the Harness Support, then press the Support against the Main Drive Assembly.
14. Use three screws to secure the Harness Support to the Main Drive Assembly.
15. Reconnect P/J 202, J209, J600, and J601.
16. Reconnect P/J 462 to the MCU PWB.
17. Reinstall the green ground wire to the screw hole at the top of the Main Drive Assembly, and use one screw to secure the wire to the Assembly.
18. Secure the wire harness at the top of the Main Drive Assembly to the wire clip that is located just above the Main Motor.
19. Reconnect J205 to the Main Motor PWB.
20. Reinstall the Inner Cover and use one screw to secure the Cover to the printer frame.
21. Reinstall the Left Cover Interlock Switch (RRP 9.6).
22. Reinstall the Rear Cover (RRP 1.3).
23. Reinstall the EP Cartridge (RRP 5.2).

RRP 9.1 Main Power Switch (PL 11.1)



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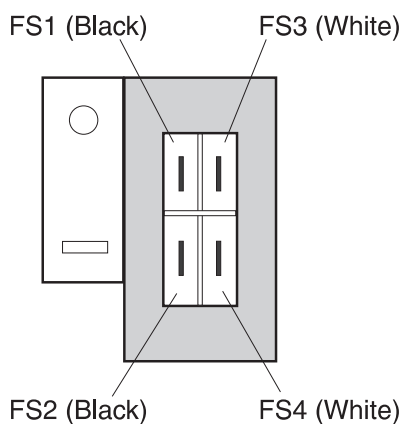
RRP 9.1 Main Power Switch (PL 11.1)

Removal

1. Remove the Top Cover Assembly (RRP 1.2).
2. Remove the screw securing the Main Switch Bracket to the Power Supply Assembly.
3. Pull the Bracket and Switch up and away from the Power Supply.
4. Disconnect the four wires from the Switch.
5. Squeeze the two clips on the underside of the Switch while you slide the Switch out the top of the Bracket.

Replacement

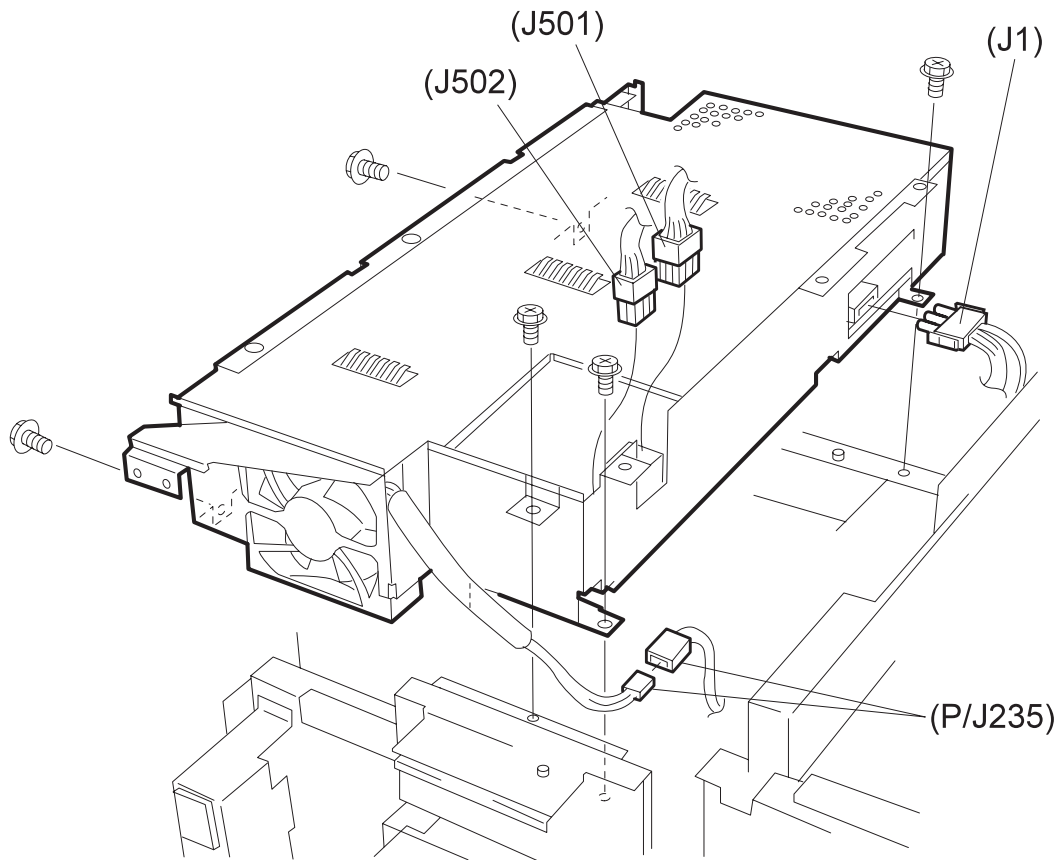
1. Slide the Main Switch into the opening in the top of the Main Switch Bracket.
It snaps into place.
2. Reconnect the four wires to the Switch.
Follow the illustration below when reconnecting the wires. The illustration represents the underside of the Main Switch Bracket and Main Switch.



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3. Reinstall the Main Switch Bracket onto the Power Supply Assembly.
Make sure you align the screw hole in the Bracket with the screw hole in the Power Supply.
4. Use one screw to secure the Bracket to the Power Supply Assembly.
5. Reinstall the Top Cover Assembly (RRP 1.2).

RRP 9.2 Low Voltage Power Supply (LVPS) Assembly (PL 11.1)



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RRP 9.2 Low Voltage Power Supply (LVPS) Assembly (PL 11.1)

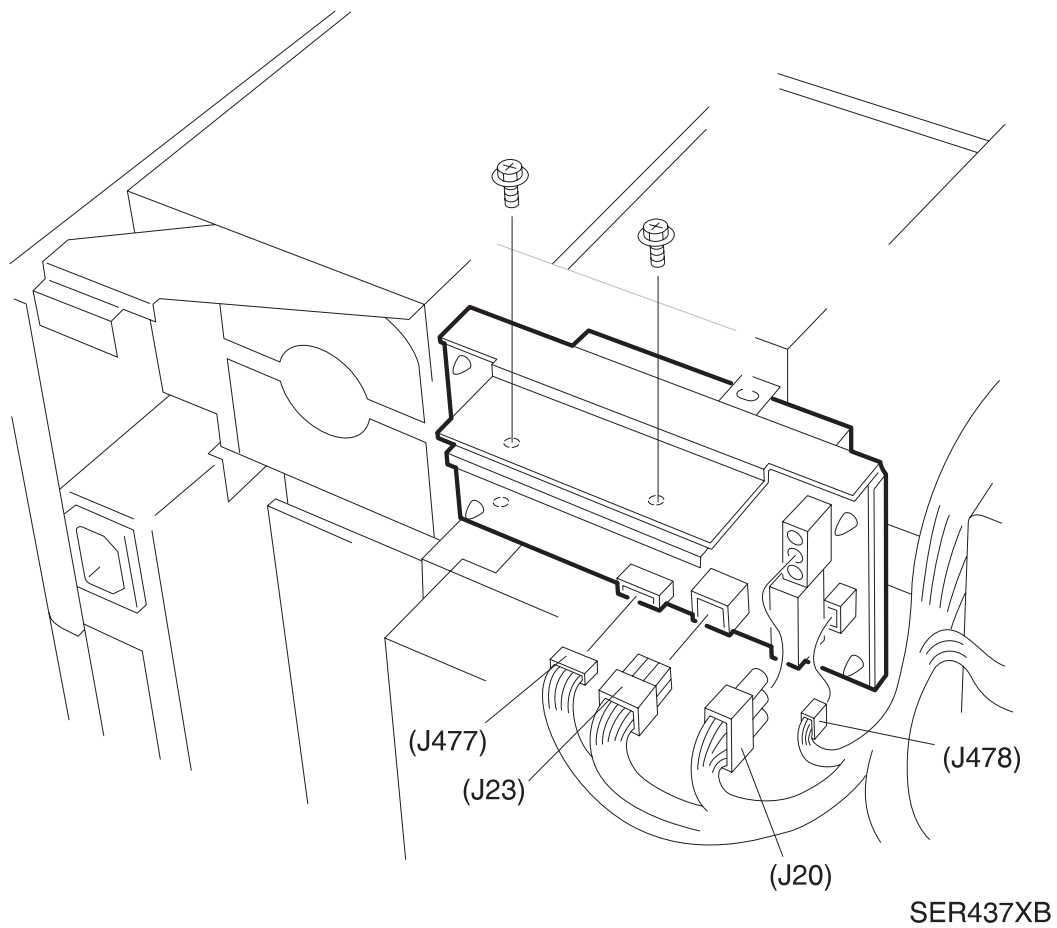
Removal

1. Remove the Top Cover Assembly (RRP 1.2).
2. Remove the Right Cover (RRP 1.4).
3. Remove four screws securing the ESS Assembly to the LVPS, and tilt the ESS Assembly back and out of the way.
4. Remove the Main Power Switch (RRP 9.1).
5. Remove the five screws securing the LVPS to the printer frame.
6. Pull the LVPS a few inches out so you can access the rear of the Power Supply.
7. Disconnect J1, J235, J501, and J502 from the LVPS.
8. Remove the wire harnesses from the harness clips at the rear of the LVPS.
9. Remove the LVPS Assembly.

Replacement

1. Position the LVPS Assembly above the printer frame, with the LVPS Fan facing the rear of the printer.
2. Route the four black and white Main Power Switch wires to the rear of the LVPS.
3. Reconnect J1, J235, J501, and J502 to the LVPS.
4. Reinstall the wire harnesses into the harness clips at the rear of the LVPS.
5. Slide the LVPS into place in the printer frame.
Make sure you do not trap the Main Switch wires between the LVPS and the printer frame.
Align the LVPS so the five screw holes in the LVPS line up with the five screw holes in the printer frame.
6. Use five screws to secure the LVPS to the printer frame.
7. Reinstall the Main Power Switch (RRP 9.1).
8. Reinstall the ESS Assembly and use four screws to secure it to the top of the LVPS.
9. Reinstall the Right Cover (RRP 1.4).
10. Reinstall the Top Cover Assembly (RRP 1.2).

RRP 9.3 AC Driver PWB (PL 11.2)



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RRP 9.3 AC Driver PWB (PL 11.2)

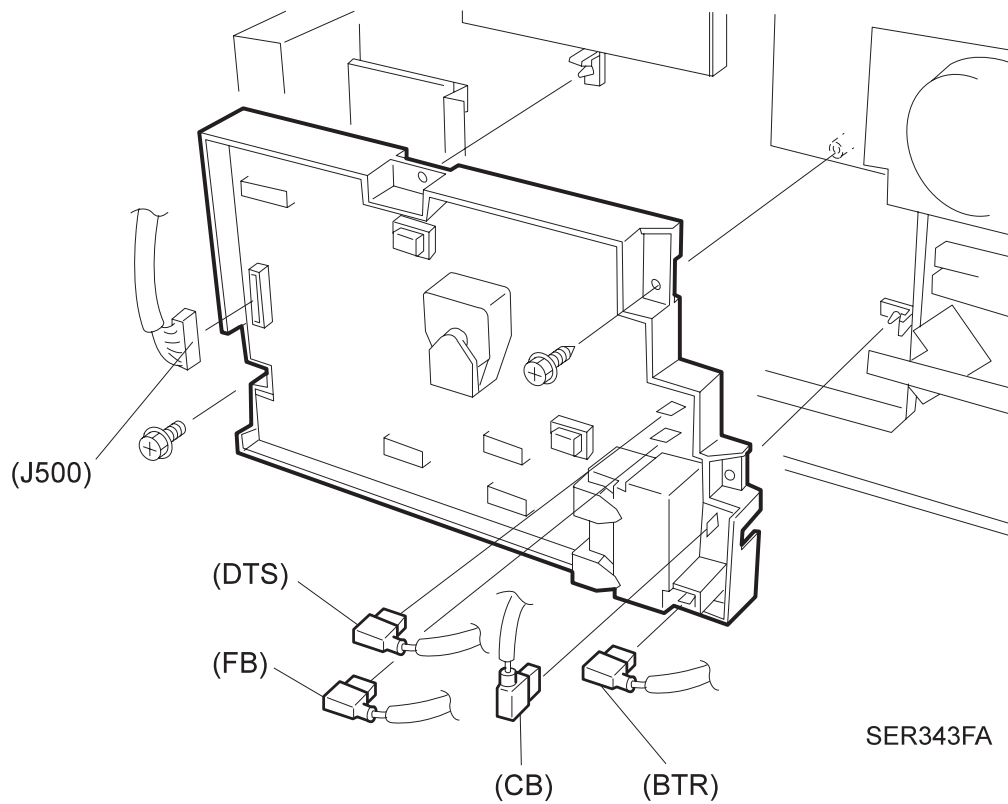
Removal

1. Remove the Top Cover Assembly (RRP 1.2)
2. Remove the Rear Cover Assembly (RRP 1.3).
3. Remove the four screws securing the ESS Assembly to the LVPS, and tilt the Assembly back and out of the way.
4. Remove the two screws securing the Bracket and AC Drive PWB to the frame.
The Bracket will fall off when you remove the two screws. Do not lose the Bracket.
5. Disconnect the four P/Js that are attached to the AC Drive PWB.
6. Squeeze the four latches securing the PWB to the printer frame and remove the PWB.

Replacement

1. Align the four holes in AC Drive PWB to the four latches on the frame and press the PWB into place.
2. Reconnect the four P/Js to the AC Drive PWB.
3. Reinstall the Bracket under the frame so it sandwiches SSR1 and SSR2 between it and the frame.
4. Use two screws to secure the Bracket and SSR1 and SSR2 to the frame.
5. Reinstall the ESS Assembly and use four screws to secure it to the LVPS.
6. Reinstall the Rear Cover Assembly (RRP 1.3)
7. Reinstall the Top Cover Assembly (RRP 1.2).

RRP 9.4 High Voltage Power Supply (HVPS) Assembly (PL 11.2)



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RRP 9.4 High Voltage Power Supply (HVPS) Assembly (PL 11.2)

Removal

1. Remove the MCU PWB (RRP 9.7)
2. Disconnect J500, DTS, FB, CB, and BTR from the HVPS PWB.



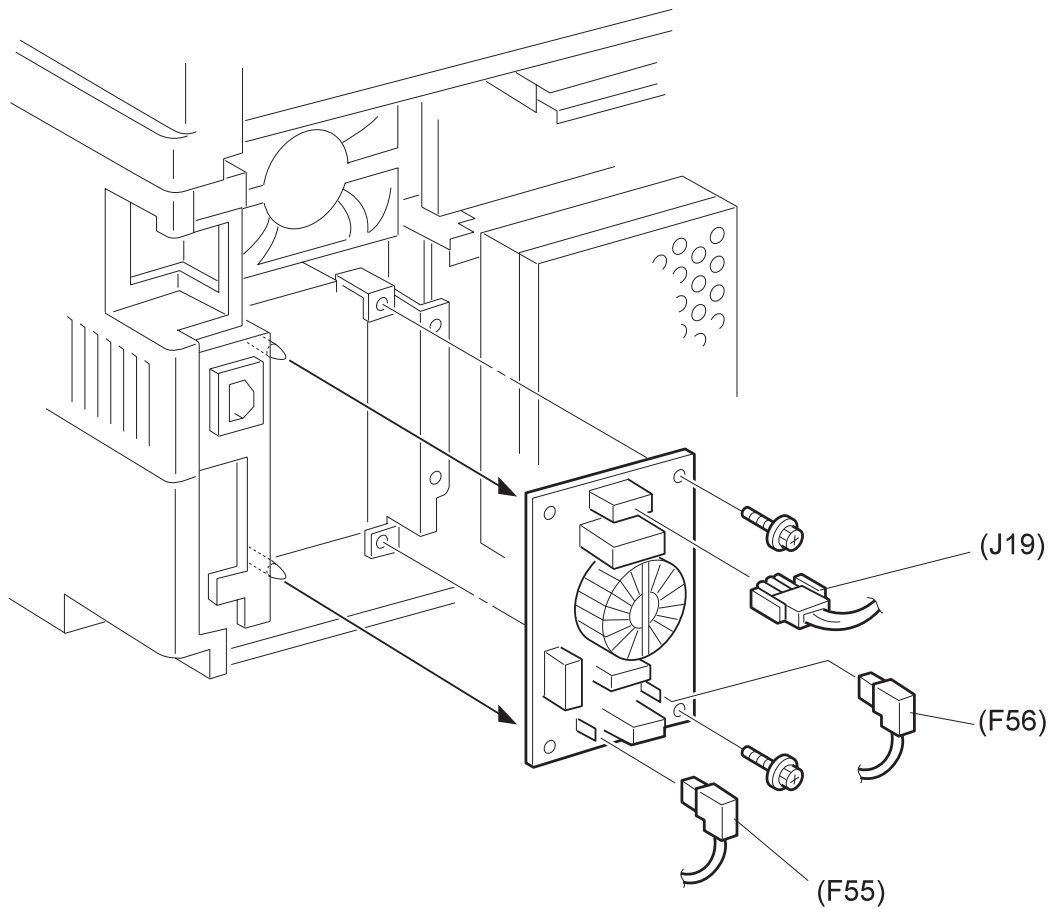
The PWB is easily broken. Use care when removing the P/Js from the HVPS PWB. Use your fingers to hold down the PWB while you carefully disconnect each P/J.

3. Remove the two screws, one on the left side and one on the right side, that secure the HVPS Assembly to the printer frame.
4. Pull out on the HVPS Assembly while you release the two clips, one at the top and one on the right side, that secure the HVPS to the printer frame.
5. Remove the HVPS Assembly from the frame.

Replacement

1. Reinstall the HVPS Assembly onto the printer frame.
2. Align the two positioning holes on the HVPS with the two tabs on the frame.
Make sure you do not trap any wire harnesses between the HVPS Assembly and the printer frame.
3. Push the HVPS against the frame until the two clips snap into place.
4. Use two screws to secure the HVPS Assembly into place on the printer frame.
5. Reconnect J500, DTS, FB, CB, and BTR to the HVPS PWB.
6. Reinstall the MCU PWB (RRP 9.7).

RRP 9.5 Noise Filter PWB (PL 11.1)



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RRP 9.5 Noise Filter PWB (PL 11.1)

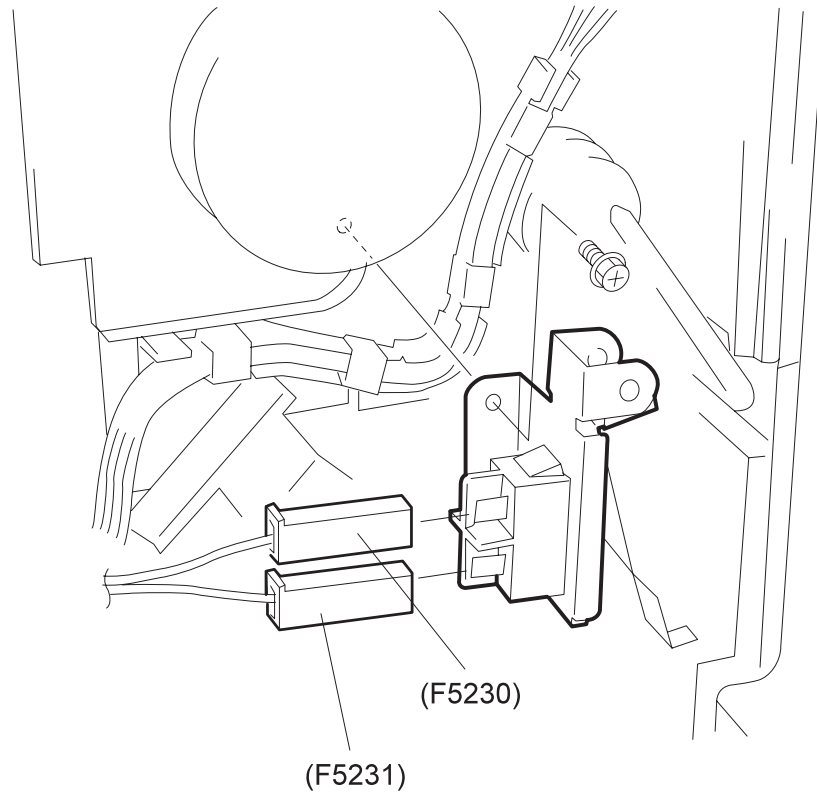
Removal

1. Remove the Rear Cover (RRP 1.3).
2. Disconnect J19, F55, and F56 from the Noise Filter PWB.
3. Remove the two screws securing the Noise Filter PWB to the printer frame.
4. Squeeze the two latches securing the PWB to the printer frame, and remove the PWB.

Replacement

1. Align the two holes in the left side of the Noise Filter PWB with the two plastic latches on the printer frame, and press the PWB into place.
2. Use two screws to secure the Noise Filter PWB to the printer frame.
3. Reconnect J19, F55, and F56 to the Noise Filter PWB.
4. Reinstall the Rear Cover (RRP 1.3).

RRP 9.6 Left Cover Interlock Switch Assembly (PL11.2)



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RRP 9.6 Left Cover Interlock Switch Assembly (PL11.2)

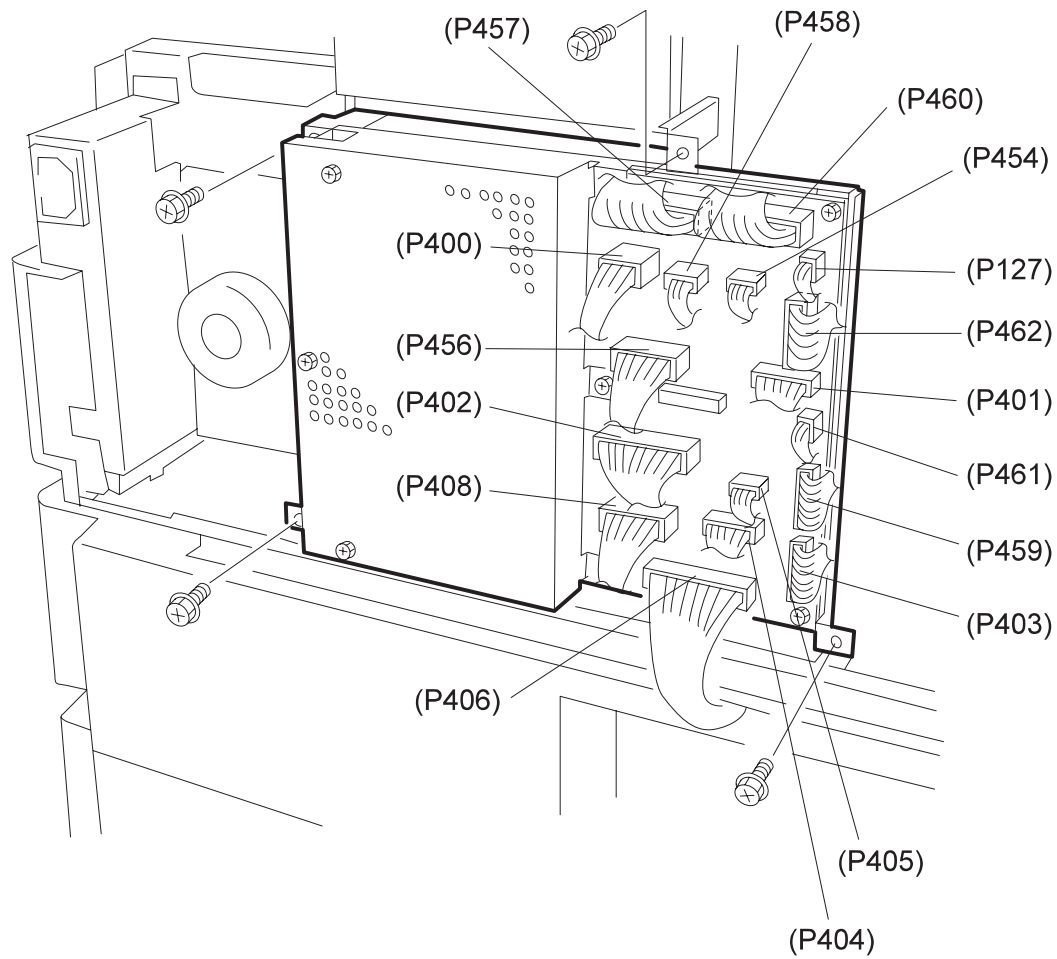
Removal

1. Remove the Rear Cover Assembly (RRP 1.3).
2. Disconnect F5230 and F5231 from the Interlock Switch.
3. Remove the screw that secures the Interlock Switch Bracket to the printer frame, and pull the Assembly out of the printer.
4. Rotate the Switch Lever so it is straight up, and slide it off of the Bracket.
5. Press the two clips securing the Switch to the Bracket and push the Switch out of the Bracket.

Replacement

1. Position the Switch against the opening in the Bracket so the two wire terminals are on the outside of the Bracket, away from the screw hole.
2. Press the Switch into the Bracket.
It snaps into place.
3. Position the Switch Lever against the Switch, with the foot of the Lever facing out.
4. Rotate the Switch Lever so it is straight up, and slide it onto the Bracket.
Press and release the Lever to make sure it is functioning correctly.
5. Open the Duplex Unit and the Left Upper Cover.
6. Position the Switch Bracket against the printer frame, slightly down from the screw hole in the printer frame.
7. Raise the Bracket so the aligning key at the bottom of the Switch meshes with the slot in the printer frame.
The key and slot keep the Bracket from moving during operation.
8. Align the screw hole in the Bracket with the screw hole in the Frame.
9. Use one screw to secure the Interlock Switch Assembly to the printer frame.
10. Open and close the Left Upper Cover to make sure the Switch functions correctly.
11. Reconnect F5230 and F5231 to the Interlock Switch.
12. Reinstall the Rear Cover Assembly (RRP 1.3).

RRP 9.7 MCU PWB (PL11.2)



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RRP 9.7 MCU PWB (PL11.2)

Removal

1. If you are able to access Diagnostics Mode, then enter Diagnostic Routines 30-5 through 30-10 to read the print engine usage logs. Write down the print count for each category. (Refer to *Section 8 - Running Printer Diagnostics*).
2. Remove the Rear Cover Assembly (RRP 1.3).
3. Disconnect the seventeen P/Js that are connected to the MCU PWB.
4. Remove the four screws securing the MCU Bracket to the printer frame, and remove the Bracket and the attached MCU PWB.
5. Remove the six screws securing the MCU Cover to the MCU Bracket, and remove the Cover.



Wear an electrostatic wrist strap and use caution when working with the MCU PWB. Static electricity can damage the sensitive electronics of the MCU.

Handle the MCU PWB by the edges of the PWB or by the plastic connectors mounted on the board. Never touch any of the ICs that are mounted on the PWB.

6. Place the Bracket and MCU on a flat, non-conductive surface.
7. Remove the four screws securing the MCU PWB to the MCU Bracket.
8. Hold on to one of the plastic connectors mounted on the PWB, and lift the MCU off of the Bracket.

Replacement

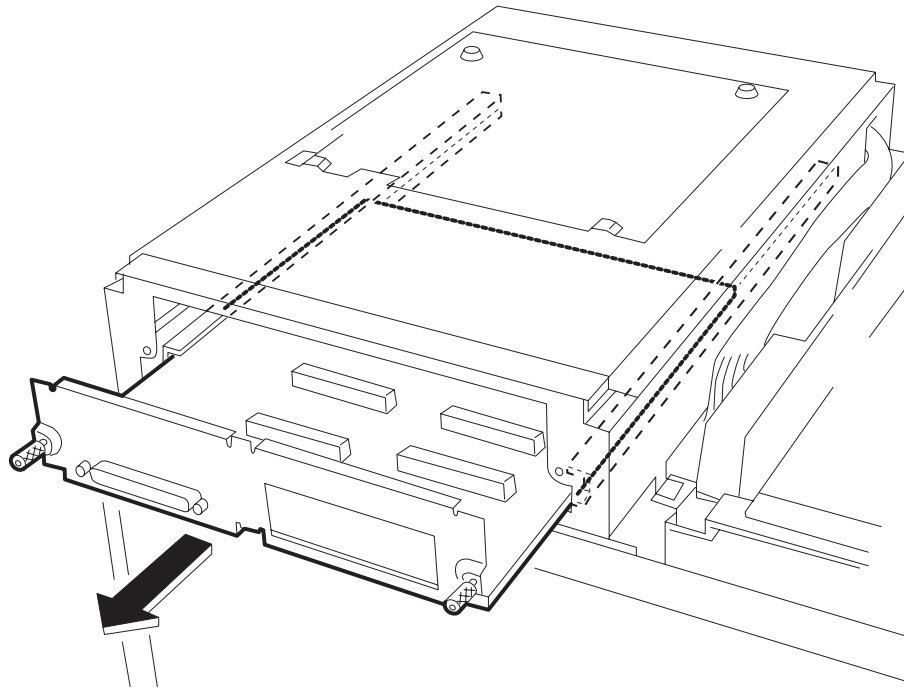
1. Place the Bracket on a flat, non-conductive surface.
2. Hold on to the edges of the PWB or one of the plastic connectors mounted on the board, and reinstall the MCU into the Bracket.
Position the MCU so the connectors are on the right.
3. Use four screws, one in each corner, to secure the MCU PWB to the Bracket.



Do not overtighten these four screws. Overtightening may crack the PWB.

4. Reinstall the MCU Cover onto the MCU Bracket.
Position the Cover so the three screw tabs are on the right and aligned over the three screw holes in the center of the MCU PWB.
5. Use six screws to secure the MCU Cover to the MCU Bracket.
6. Reinstall the MCU PWB Bracket onto the printer frame.
Make sure you do not trap any wire harnesses between the Bracket and the frame.
7. Use four screws to secure the Bracket to the printer frame.
8. Reconnect the seventeen P/Js to the MCU PWB.
9. Reinstall the Rear Cover Assembly (RRP 1.3).
10. Enter Diagnostic Routines 30-5 through 30-10 and take the values you took from the old MCU usage logs and write them to the new MCU usage logs. (Refer to *Section 8 - Running Printer Diagnostics*).

RRP 9.8 Video Controller (PL11.3)



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RRP 9.8 Video Controller (PL11.3)

Removal

1. Remove the any interface cables from the connectors on the ESS Drawer Panel.
2. Loosen the two thumbscrews that secure the ESS Drawer Panel to the ESS Box.
3. Slide the ESS out of the ESS Box.



Wear an electrostatic wrist strap and use caution when working with the Video Controller. Static electricity can damage the sensitive electronics of the ESS.

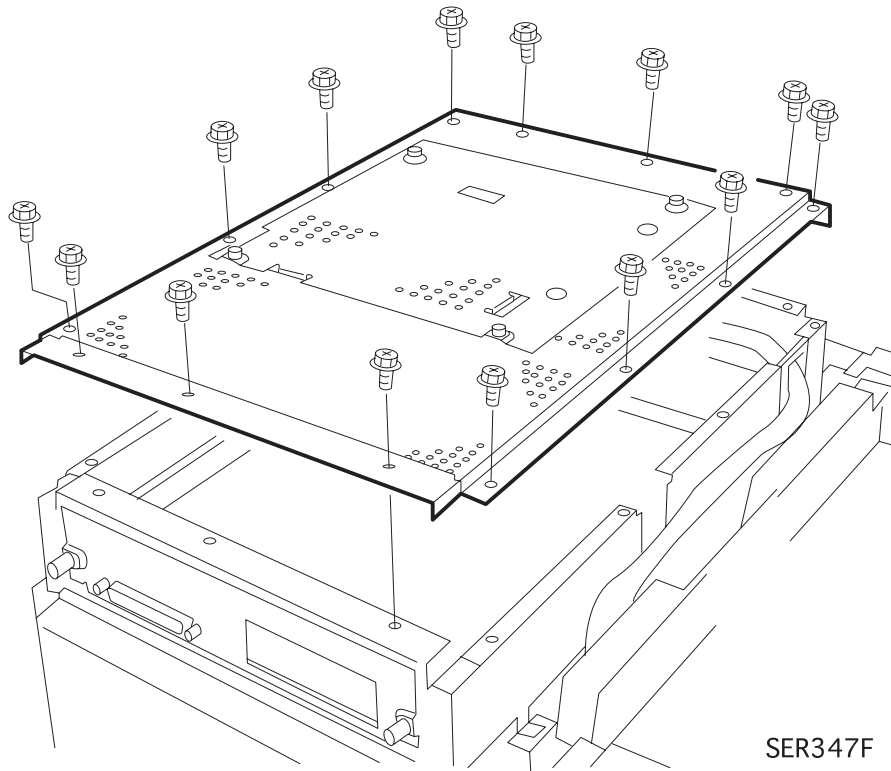
Handle the Video Controller by the edges of the PWB or by the Drawer Panel. Never touch any of the ICs that are mounted on the PWB.

4. Place the Video Controller and the attached Drawer Panel on a flat, non-conductive surface.
5. Remove the two nuts and four washers that secure the Drawer Panel to the interface plug on the Video Controller.
6. Remove the three screws securing the Drawer Panel to the Video Controller, and remove the Panel.

Replacement

1. Place the Video Controller on a flat, non-conductive surface.
2. Position the Drawer Panel so the three legs are under the Video Controller and the interface plug fits through the cutout in the Panel.
3. Use two nuts and four washers, two per nut, to secure the Panel to the interface plug.
4. Use three screws to secure the Drawing Panel to the ESS.
5. Slide the ESS into the ESS Box.
6. Tighten the two thumbscrews that secure the ESS Drawer Panel to the ESS Box.
7. Reconnect the interface cables to the connectors on the Drawer Panel.

RRP 9.9 ESS Cover (PL11.3)



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RRP 9.9 ESS Cover (PL11.3)

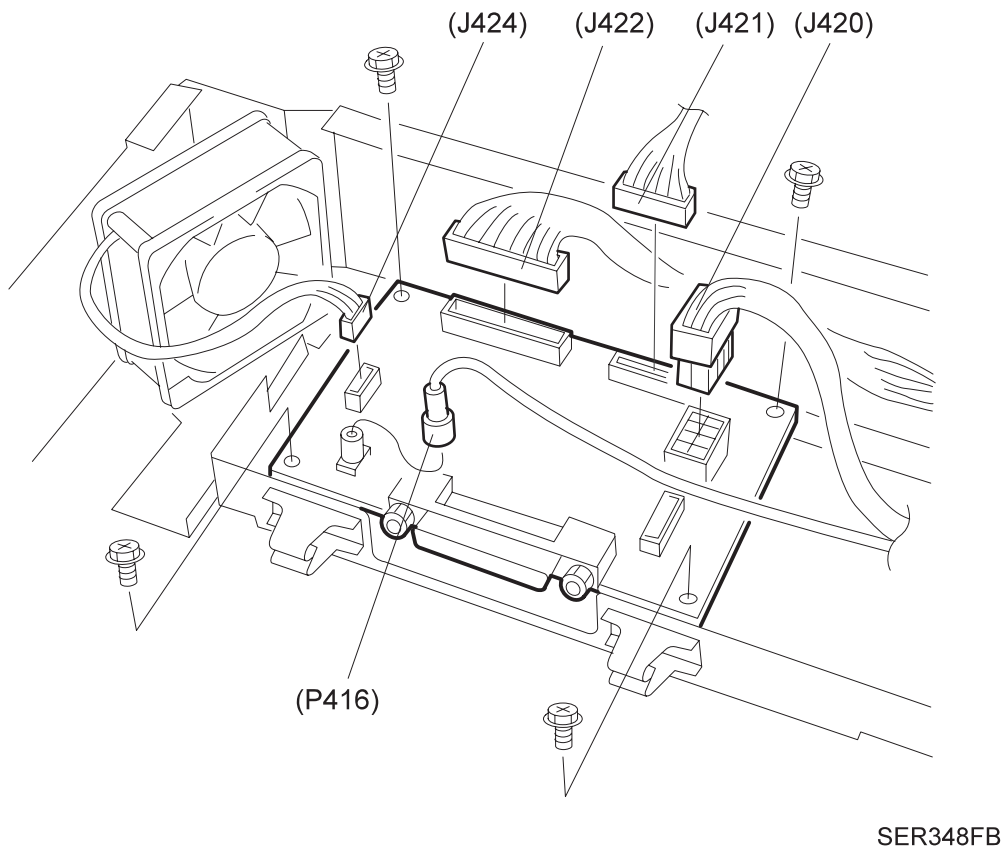
Removal

1. Remove the Top Cover Assembly (RRP 1.2).
2. Remove the fourteen screws that secure the ESS Cover to the ESS Box.
3. Lift the ESS Cover off of the ESS Box.

Replacement

1. Reinstall the ESS Cover onto the top of the ESS Box (refer to the figure for correct positioning).
2. Use fourteen screws to secure the ESS Cover to the ESS Box.
3. Reinstall the Top Cover Assembly (RRP 1.2).

RRP 9.10 ESS Mother PWB (PL11.3)



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RRP 9.10 ESS Mother PWB (PL11.3)

Removal

1. Remove the Video Controller (RRP 9.8)
2. Remove the ESS Cover (RRP 9.9).
3. Disconnect P416, J420, J421, J422, and J424 from the ESS Mother PWB.
4. Remove the four screws securing the ESS Mother PWB to the ESS Box.
5. Remove the two 7mm nuts from J423.
6. Lift the ESS Mother PWB out of the ESS Box.



Handle the ESS Mother PWB by the edges of the PWB. Never touch any of the ICs that are mounted on the PWB.

Replacement

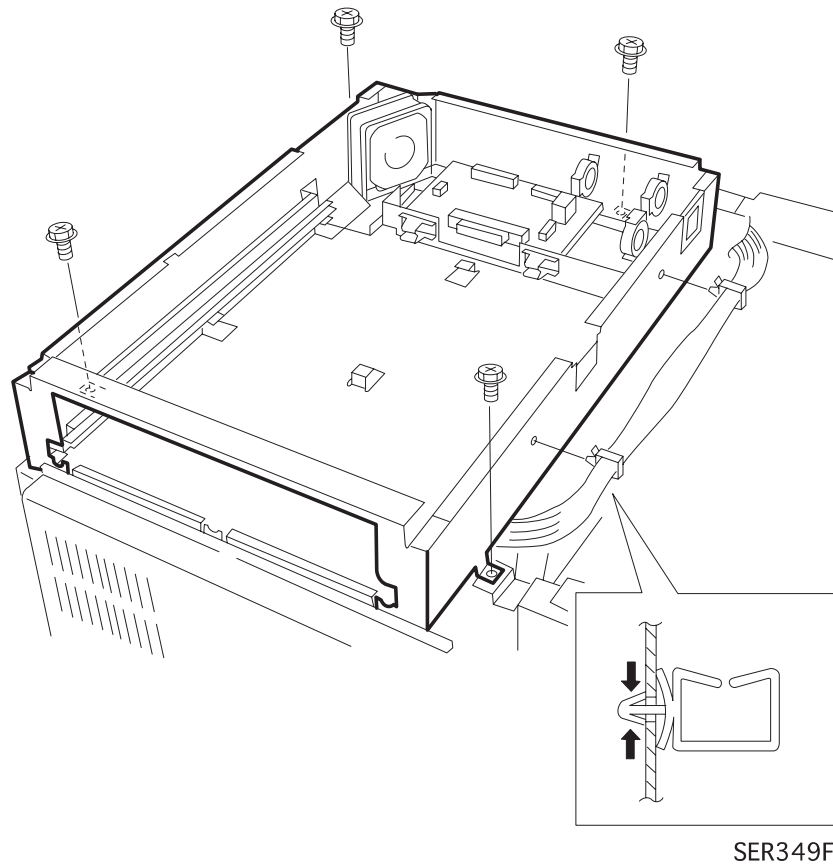
1. Reinstall the ESS Mother PWB into the ESS Box.
Align the PWB so J423 faces the Video Controller location.
2. Use two 7mm nuts to secure J423.
3. Use four screws to secure the ESS Mother PWB to the ESS Box.
Do not fully tighten the screws.
4. Slide the Video Controller into the ESS Box until P440 on the ESS mates with J423 on the ESS Mother PWB.
5. Tighten the four screws securing the ESS Mother PWB to the ESS Box.



Do not overtighten these four screws. You might crack the PWB.

6. Reconnect P416, J420, J421, J422, and J424 to the ESS Mother PWB.
7. Reinstall the ESS Cover (RRP 9.9).
8. Reinstall the Video Controller (RRP 9.8).

RRP 9.11 ESS Assembly (PL11.3)



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RRP 9.11 ESS Assembly (PL11.3)

Removal

1. Remove the ESS Cover (RRP 9.9).
2. Disconnect P/J 416, 420, 421, and 422 from the ESS Mother PWB.
3. Release the wire harness from the wire clamps and pull the harness free of the ESS Box.
4. Remove the four screws securing the ESS Box to the printer frame, and remove the Box.

Replacement

1. Remove the ESS Cover (RRP 9.8).
2. Reinstall the ESS Box onto the printer frame.
Align the ESS Box so the cutout for the Video Controller faces the rear of the printer.
3. Use four screws to secure the ESS Box to the printer frame.
4. Route the wire harness along the outside back of the ESS Box and through the grommet at the rear of the Box.
5. Use the wire clamps to secure the wire harness to the Box.
There are two clamps along the outside back of the ESS Box, and two clamps on the interior of the ESS Box.
6. Reconnect P/J 416, 420, 421, and 422 to the ESS Mother PWB.
7. Reinstall the ESS Cover (RRP 9.9).

Section 11 - Locating P/J Connectors**Contents**

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P/J Location Map 9	11-15

Use the table and maps in this section to locate specific P/J connectors within the printer.

To find the location of a P/J:

1. Locate the P/J connector number in the first column of the table.
2. Locate the corresponding map and location number, such as M2-5, in the second column.
3. Go to the map (M2) number and locate item number (5).

P/J Location Table

P/J	Map & Number	Connected to...	Other end connected to...
1	M2-7 M9-3	LVPS (110VAC)	Main Switch F52/F53
12	M5-4	Fuser Heat Rods & STS	J23 AC Drive PWB & J600
13	M1-5	Finisher AC voltage connector	CE11 & CE12 (110VAC line)
19	M9-11	Output - Noise Filter PWB	F51/F53
20	M9-7	AC Drive PWB	AC Hot and AC N
23	M9-9	AC Drive PWB	P/J12 Fuser Heat Rods & STS
100	M3-5	Registration Sensor	P/J459 MCU PWB
101	M3-7	Take Away Roll 1 Sensor	P/J403 MCU PWB
102	M3-6	Tray 1 No Paper Sensor	P/J459 MCU PWB
103	M3-4	Tray 1 Level Sensor	P/J459 MCU PWB
104	M5-5	Fuser Exit Sensor	P/J462 MCU PWB
105	M4-29	Tray 1 Paper Size Sensor	P/J461 MCU PWB
106	M1-1	SOS Sensor	P/J456 MCU PWB
107	M3-1	MSI Size Sensor	P/J403 MCU PWB
108	M3-8	MSI No Paper Sensor	P/J403 MCU PWB
109	M5-12	Face Up Exit Sensor	P/J462 MCU PWB
127	M4-11	MCU PWB	Toner Sensor
133	M5-2	Full Stack Sensor	P/J462 MCU PWB
140	M6-5	Tray 2 No Paper Sensor	P/J408 MCU PWB
141	M6-4	Tray 2 Level Sensor	P/J408 MCU PWB

P/J Location Table continued

P/J	Map & Number	Connected to...	Other end connected to...
142	M6-1	Tray 2 Size Sensor	P/J408 MCU PWB
143	M6-6	Take Away Roll Sensor	P/J408 MCU PWB
144	M6-7	Tray 2 Left Cover Interlock Switch	P/J607 and P/J408 MCU PWB
200	M4-13	Registration Clutch	P/J462 MCU PWB
201	M4-18	Take Away Clutch	P/J462 MCU PWB
202	M4-17	Feed Clutch 1	P/J462 MCU PWB
203	M4-19	Lift Up Motor 1	P/J403 MCU PWB
204	M5-3	Fuser Fan	P/J460 MCU PWB
205	M4-10	Main Motor	P/J460 MCU PWB
207	M1-6	Scanner Motor Assembly	P/J456 MCU PWB
208	M3-2	MSI Feed Clutch	P/J403 MCU PWB
209	M5-10	Offset Motor	P/J462 MCU PWB
210	M5-1	Exit Gate Solenoid	P/J462 MCU PWB
218	M5-6	Inverter CW Clutch	P/J462 MCU PWB
219	M5-7	Inverter CCW Clutch	P/J462 MCU PWB
232	M4-32	Interlock Switch 2	P/J458 MCU PWB
233	M4-31	Interlock Switch 1	P/J458 MCU PWB
234	M4-6	CRU Switch 1 and CRU Switch 2	P/J407 Laser Diode Driver P/J456 MCU PWB
235	M9-6	LVPS Fan	P/J401 MCU PWB
240	M6-9	Tray 2 Feed Clutch	P/J408 MCU PWB
241	M6-10	Tray 2 Lift Up Motor	P/J408 MCU PWB
400	M4-3	MCU PWB	P/J501 & P502 LVPS
401	M4-16	MCU PWB	P/J477 AC Drive P/J235 Fuser Fan
402	M4-27	MCU PWB	P/J422 - ESS Mother PWB

P/J Location Table continued

P/J	Map & Number	Connected to...	Other end connected to...
403	M4-22	MCU PWB	P/J107 MSI Size Sensor P/J108 MSI No Paper Sensor P/J208 MSI Feed Clutch
404	M4-25	MCU PWB	P/J611 Duplex Module
405	M4-23	MCU PWB	P/J612 Mailbox or P612 Finisher
406	M4-24	MCU PWB	P/J480/P/J481 HCF Cabinet PWB
407	M1-2	Laser Diode Driver	P/J456 MCU PWB
408	M4-26	MCU PWB	P/J140 No Paper Sensor 2 P/J141 Level 2 Sensor P/J142 Size 2 Paper Sensor P/J143 Take Away Roll 2 Sensor P/J144 Left Cover 2 Interlock Switch P/J240 Tray 2 Feed Clutch P/J241 Tray 2 Lift Up Motor
410	M4-28	MCU PWB	Type D0 Console
416	M7-6	ESS Mother PWB	P/J430 Laser Diode Driver
417	M2-4 M7-4	Control Panel	P/J421 ESS Mother PWB
420	M7-5	ESS Mother PWB	P/J501/502 LVPS PWB
421	M7-3	ESS Mother PWB	P/J417 Control Panel PWB
422	M7-2	ESS Mother PWB	P/J402 MCU PWB
423	M7-7	Video Controller	ESS Mother PWB
430	M1-3	Laser Diode Driver	ESS Mother PWB
454	M4-7	MCU PWB	P/J606 CRU - CRU Memory
456	M4-2	MCU PWB	P/J106 SOS Sensor P/J207 ROS Motor P/J234 CRU Interlock P/J407 Laser Diode Driver
457	M4-5	MCU PWB	P/J500 HVPS
458	M4-4	MCU PWB	P/J233 Interlocks SW1 and SW2

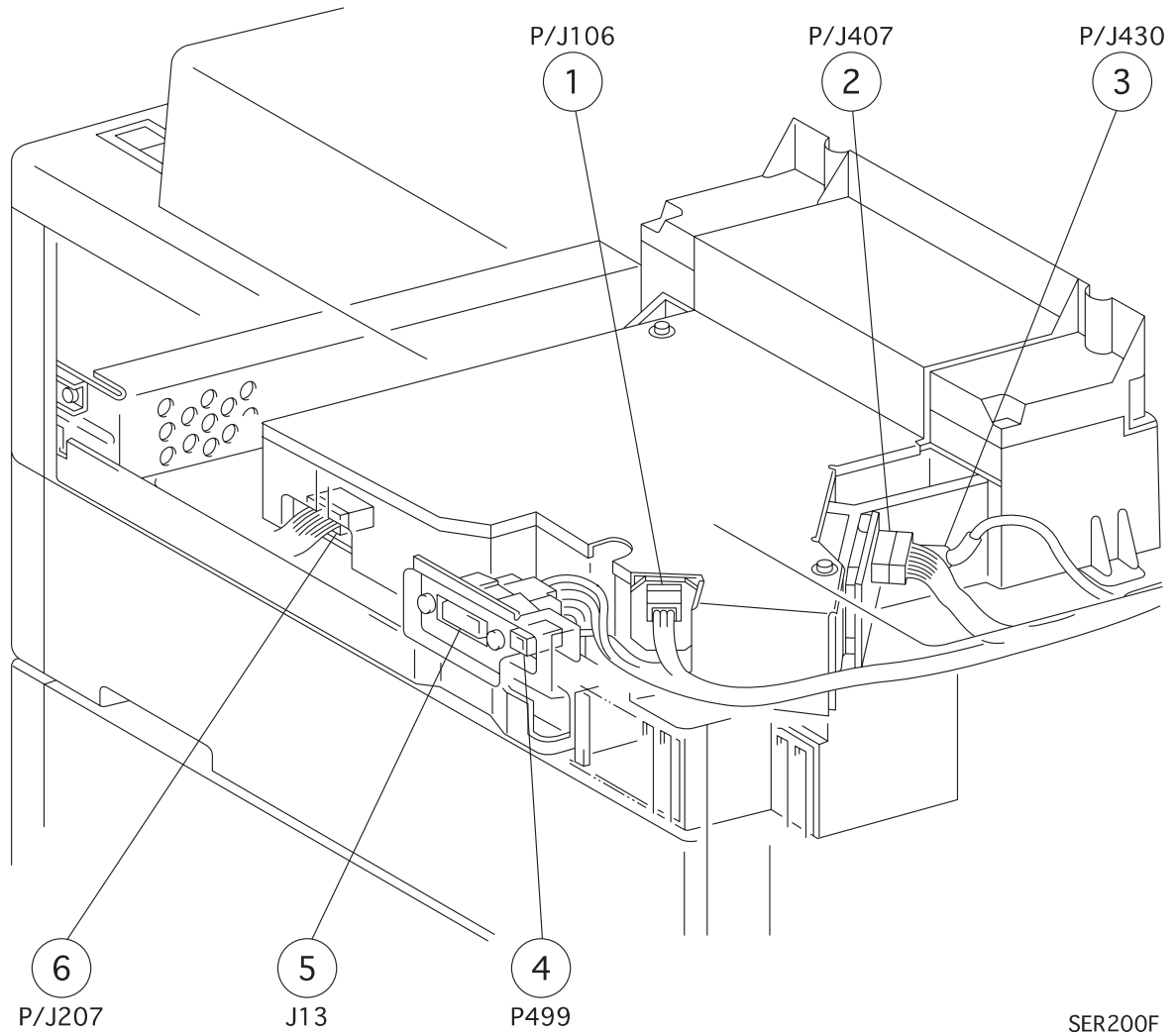
P/J Location Table continued

P/J	Map & Number	Connected to...	Other end connected to...
459	M4-21	MCU PWB	P/J100 Registration Sensor P/J102 No Paper 1 Sensor P/J103 Level 1 Sensor
460	M4-9	MCU PWB	P/J204 Fuser Fan P/J205 Main Motor
461	M4-20	MCU PWB	P/J105 Size Sensor 1
462	M4-12	MCU PWB	P/J202 Feed Clutch 1 P/J201 Take Away Roll 1 Clutch P/J200 Registration Clutch P/J104 Fuser Exit Sensor P/J601 Face Up Exit Sensor P/J601 Full Stack Sensor P/J601 Exit Gate Solenoid P/J218 Inverter CW Clutch P/J219 Inverter CCW Clutch
477	M9-10	AC Drive PWB	P/J401 MCU PWB
478	M9-8	AC Drive PWB	Test output connector
499	M1-4	Test output connector	P/J478 AC Drive PWB
500	M4-1	HVPS	P/J457 MCU PWB
501	M2-2 M9-4	LVPS	P/J420 ESS Mother PWB P/J400 MCU PWB
502	M2-17 M9-5	LVPS	P/J420 ESS Mother PWB P/J400 MCU PWB
600	M5-9	Fuser STS	P/J462 MCU PWB
601	M5-8	P109 Face Up Exit Sensor P133 Full Stack Sensor P210 Exit Gate Solenoid	P/J462 MCU PWB
602	M5-11	P218 Inverter CW Clutch P219 Inverter CCW Clutch	P/J642 MCU PWB
603	M3-9	P/J604 MSI	P/J403 MCU PWB
604	M3-3	P107 MSI Size Sensor J108 MSI No Paper Sensor P200 MSI Feed Clutch	P/J403 MCU PWB
606	M4-8	CRU - CRU Memory	P/J454 MCU PWB

P/J Location Table continued

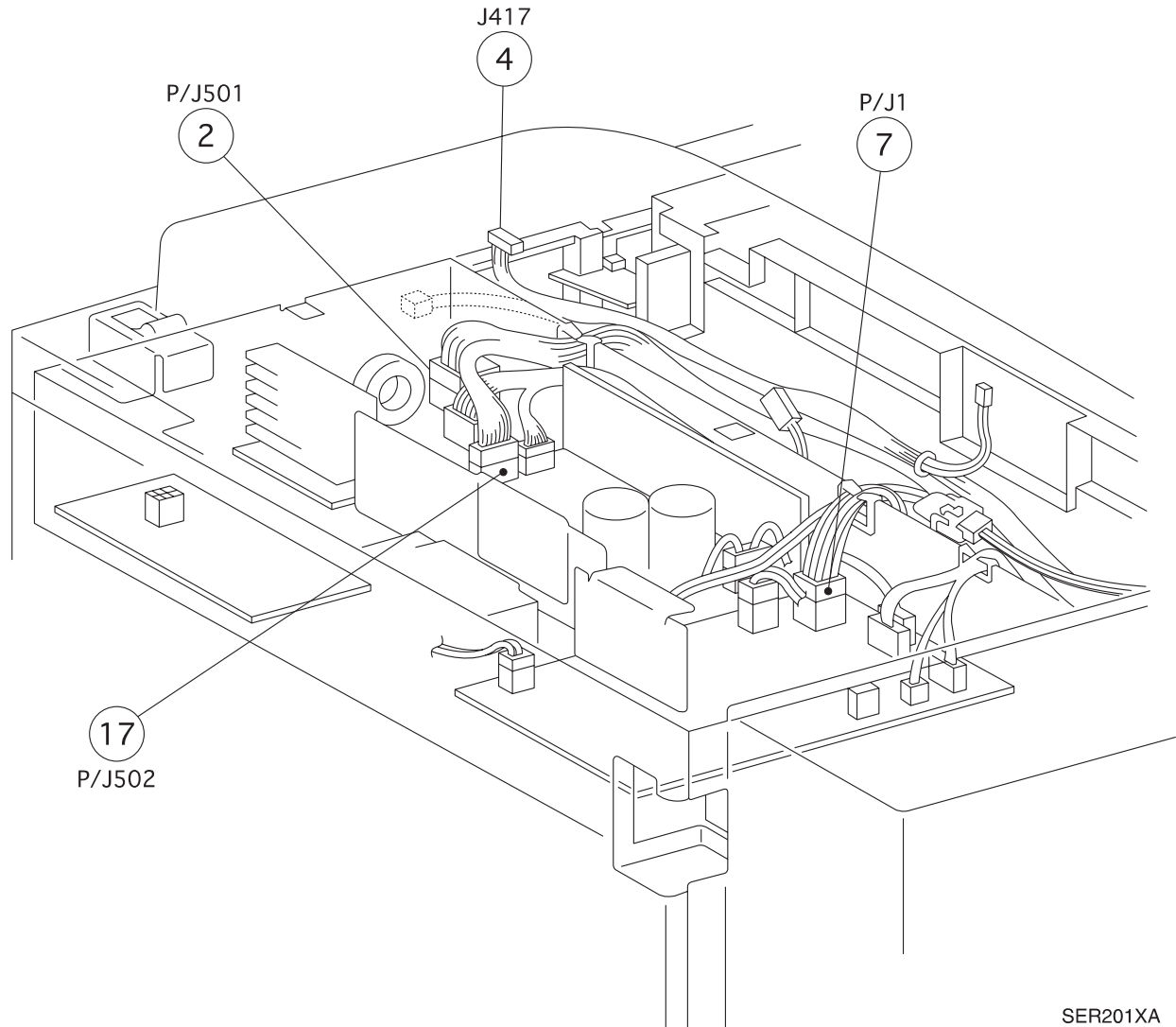
P/J	Map & Number	Connected to...	Other end connected to...
607	M6-8	P/J143 Take Away Roll Sensor P/J144 Tray 2 Left Cover Interlock Switch	P/J408 MCU PWB
611 A,B	M8-6	P/J473 Duplex PWB	P/J404 MCU PWB
612 A,B	M8-5	P/J800 Mailbox PWB P/J830 Finisher PWB	P/J405 MCU PWB
613 A~D	M8-7	P/J406 MCU PWB	P/J480 Finisher PWB P/J481 Finisher PWB
F51~5 4	M9-1	Main Power Switch	P/J19 Noise Filter PWB P/J20 AC Drive PWB P/J1 LVPS PWB
F55	M9-13	Noise Filter PWB	AC Power Cord Hot
F56	M9-12	Noise Filter PWB	AC Power Cord Neutral
F 5230	M4-14 M6-3	Main Interlock Switch	P/J458 MCU PWB
F 5231	M4-15 M6-2	Main Interlock Switch	P/J458 MCU PWB
BTR	M6-11 M8-4	Bias Transfer Roll	HVPS
CB	M6-13 M8-3	Charge Roll	HVPS
DTS	M6-12 M8-1	Detack Saw	HVPS
DB	M8-2	Magnet Roll	HVPS
T4	M9-2	Frame Ground	P/J1 LVPS PWB

P/J Location Map 1



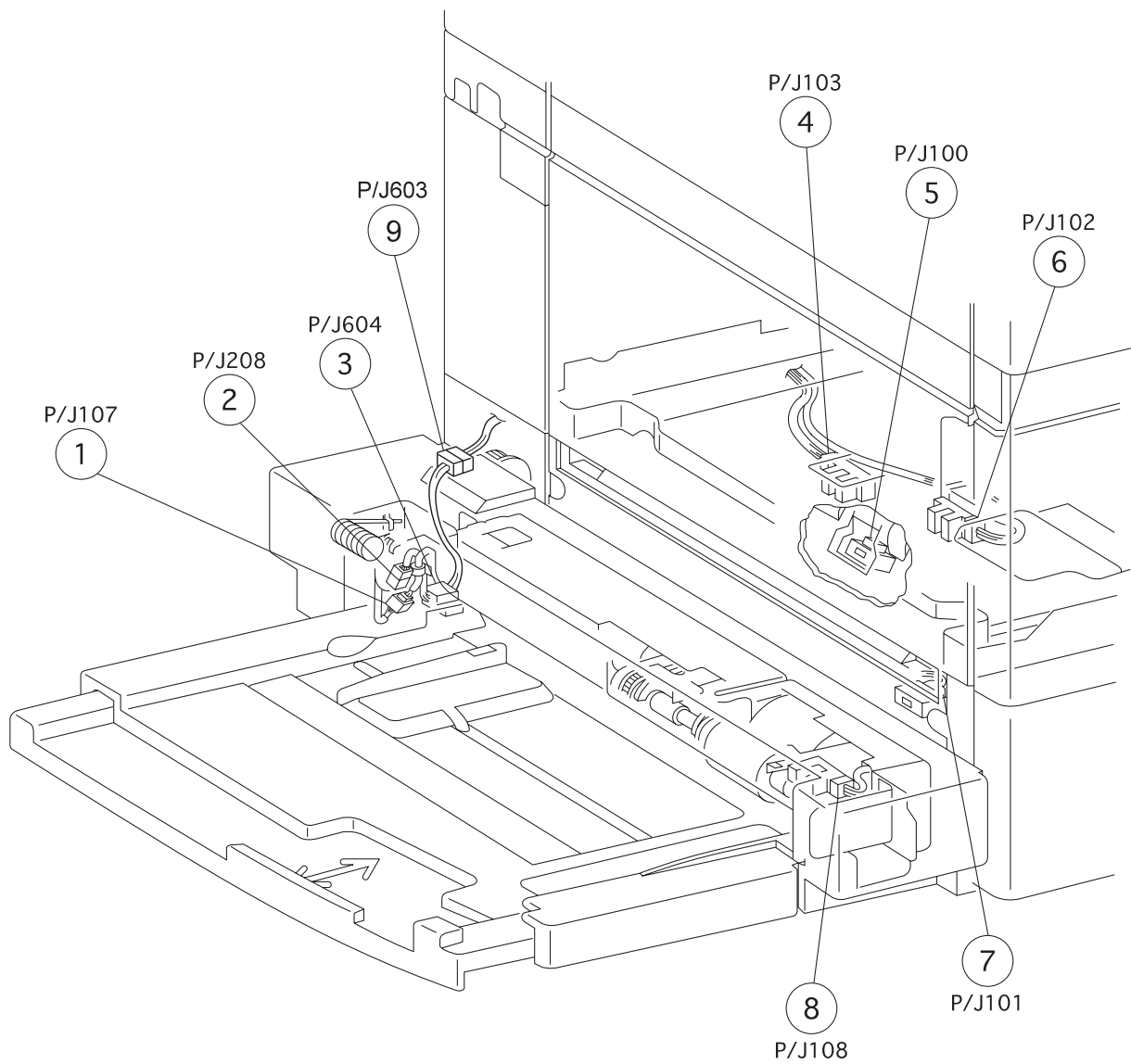
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P/J Location Map 2



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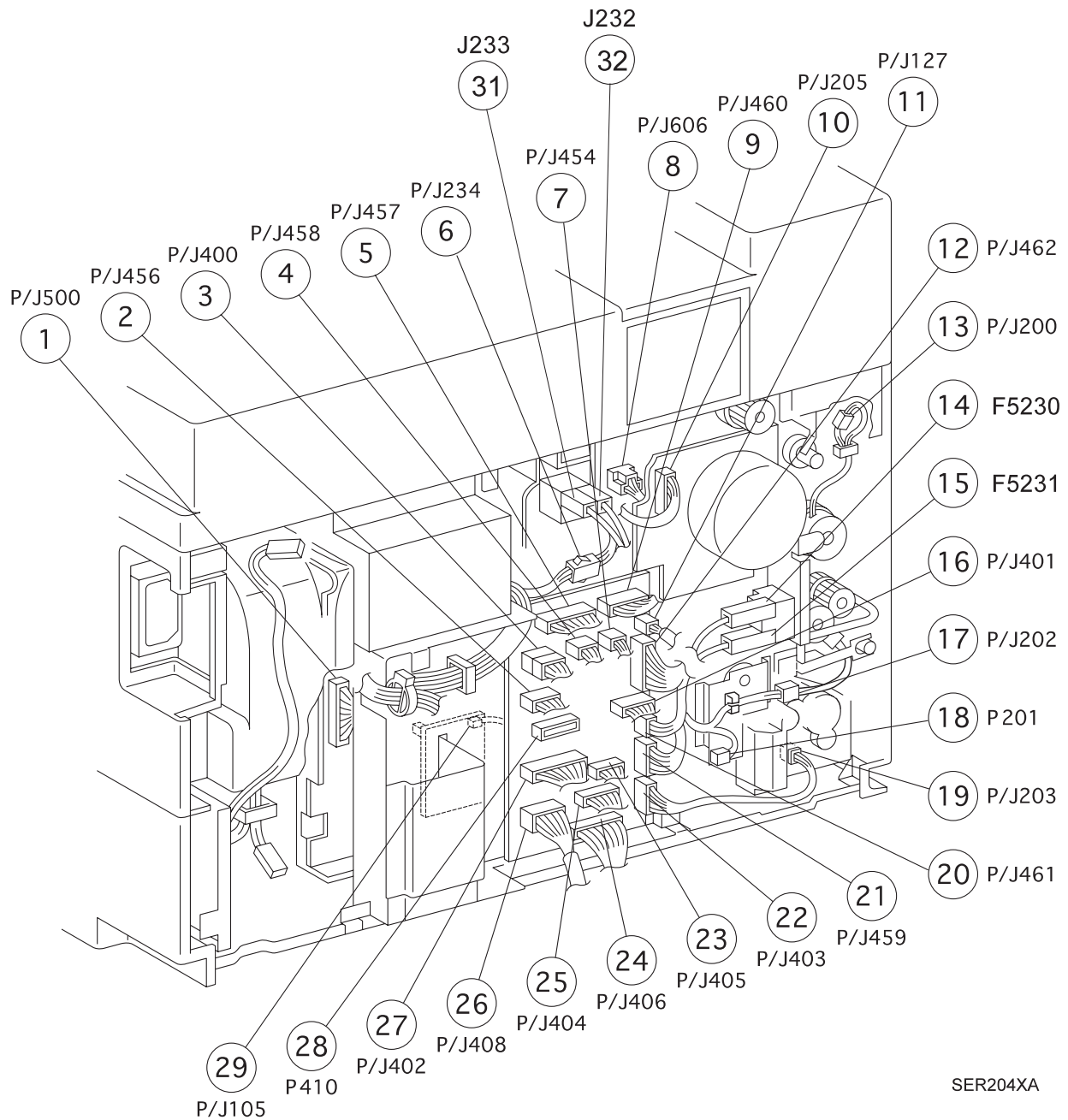
P/J Location Map 3



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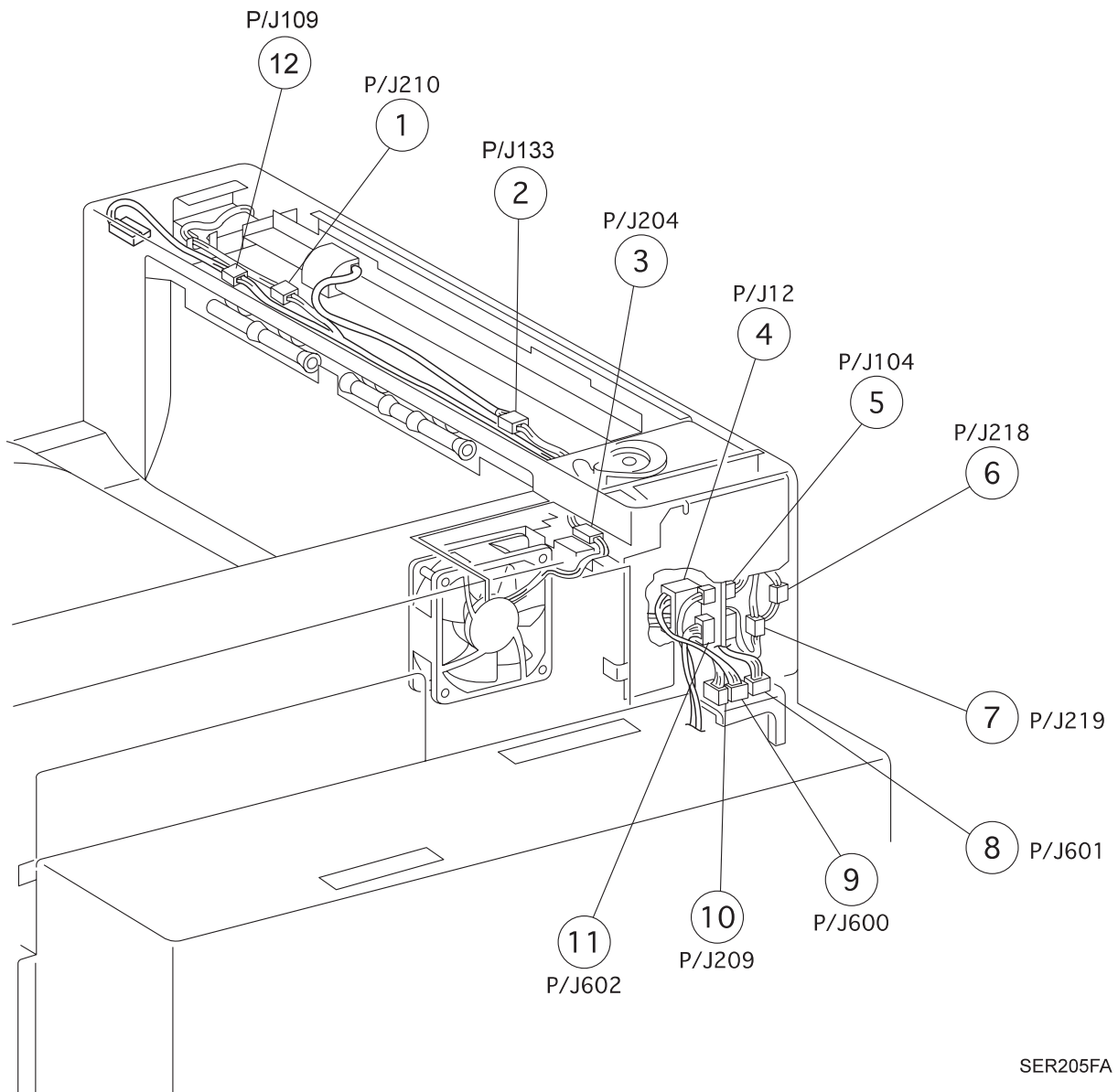
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P/J Location Map 4



SER204XA

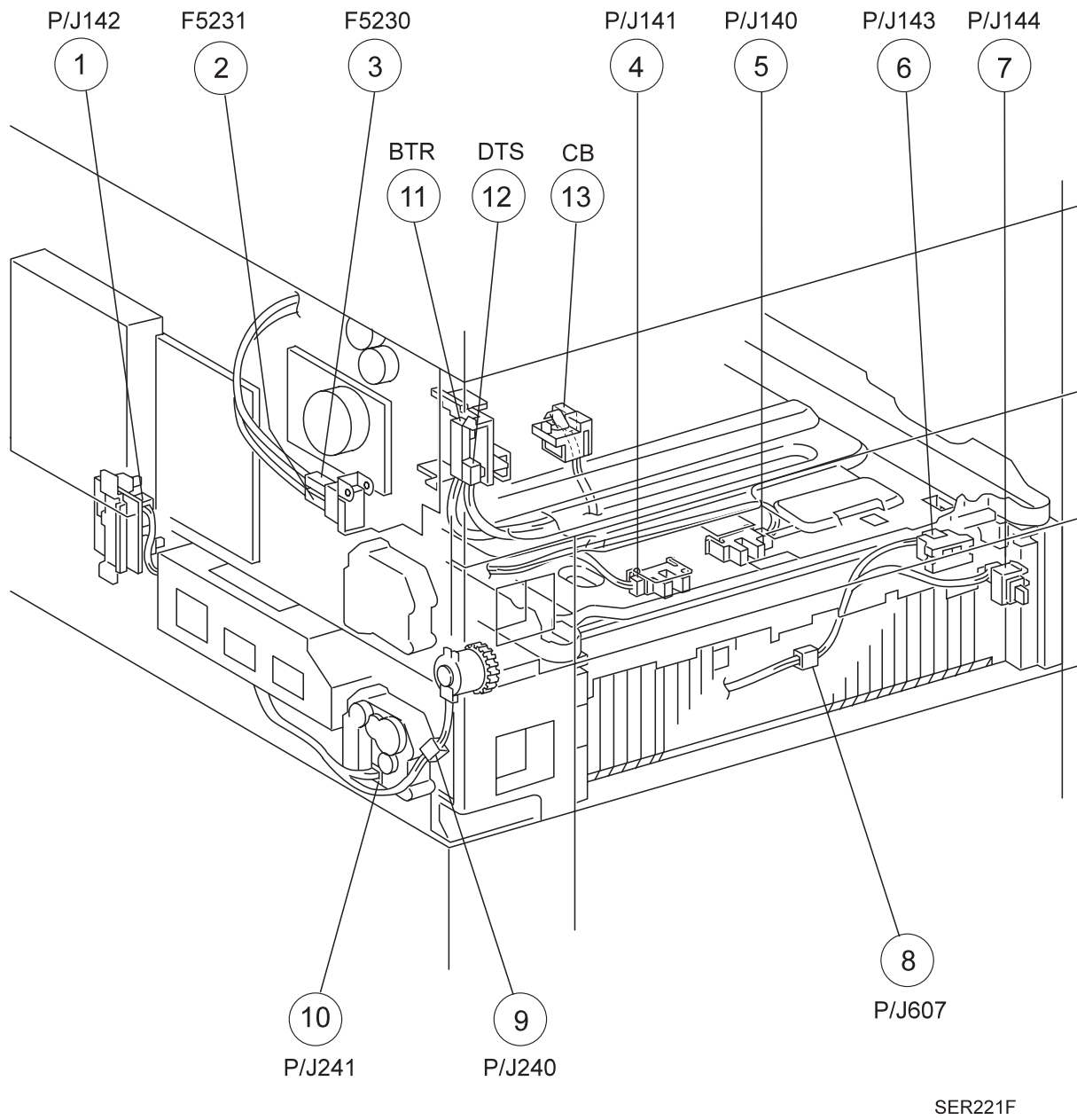
P/J Location Map 5



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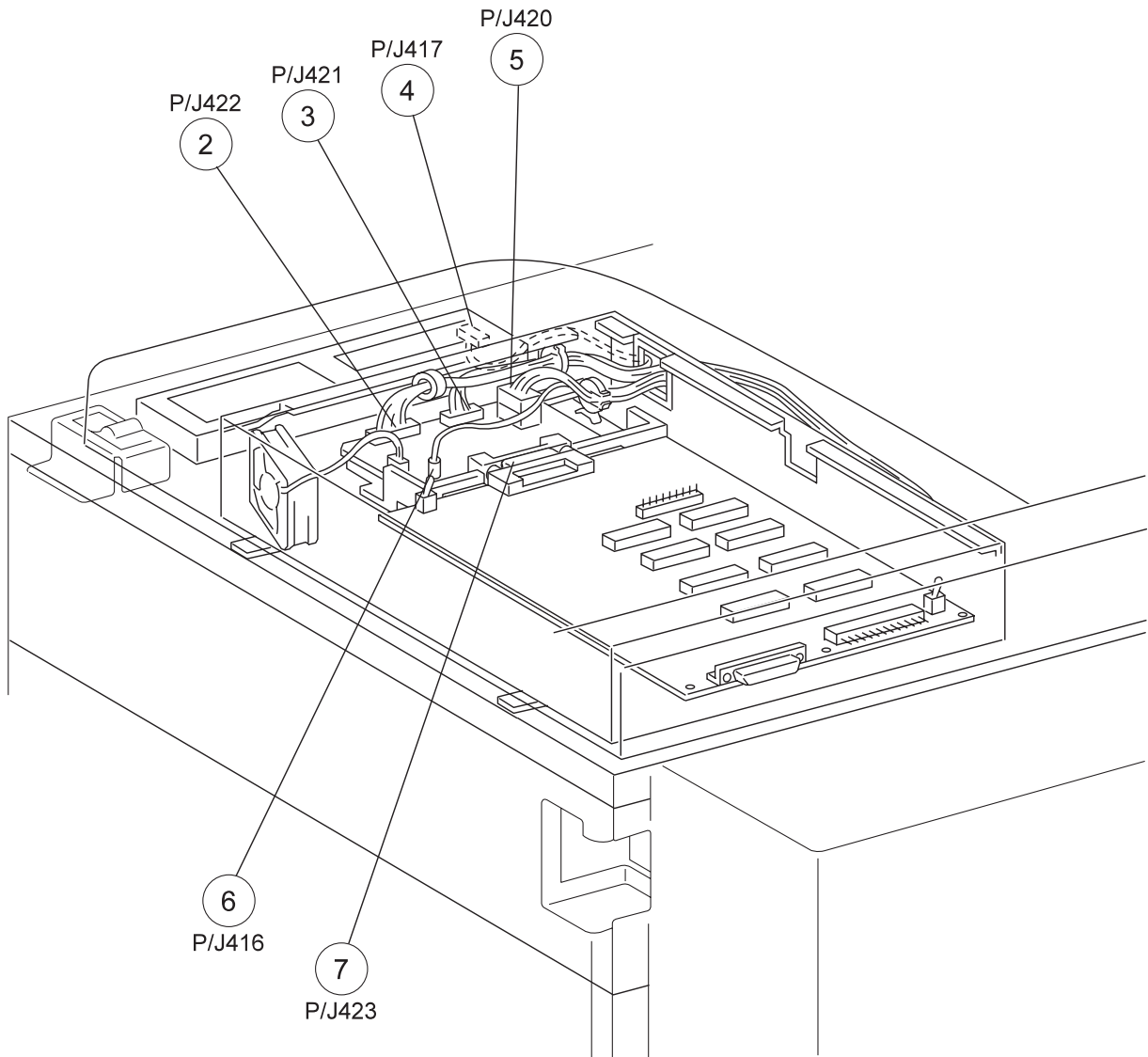
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P/J Location Map 6



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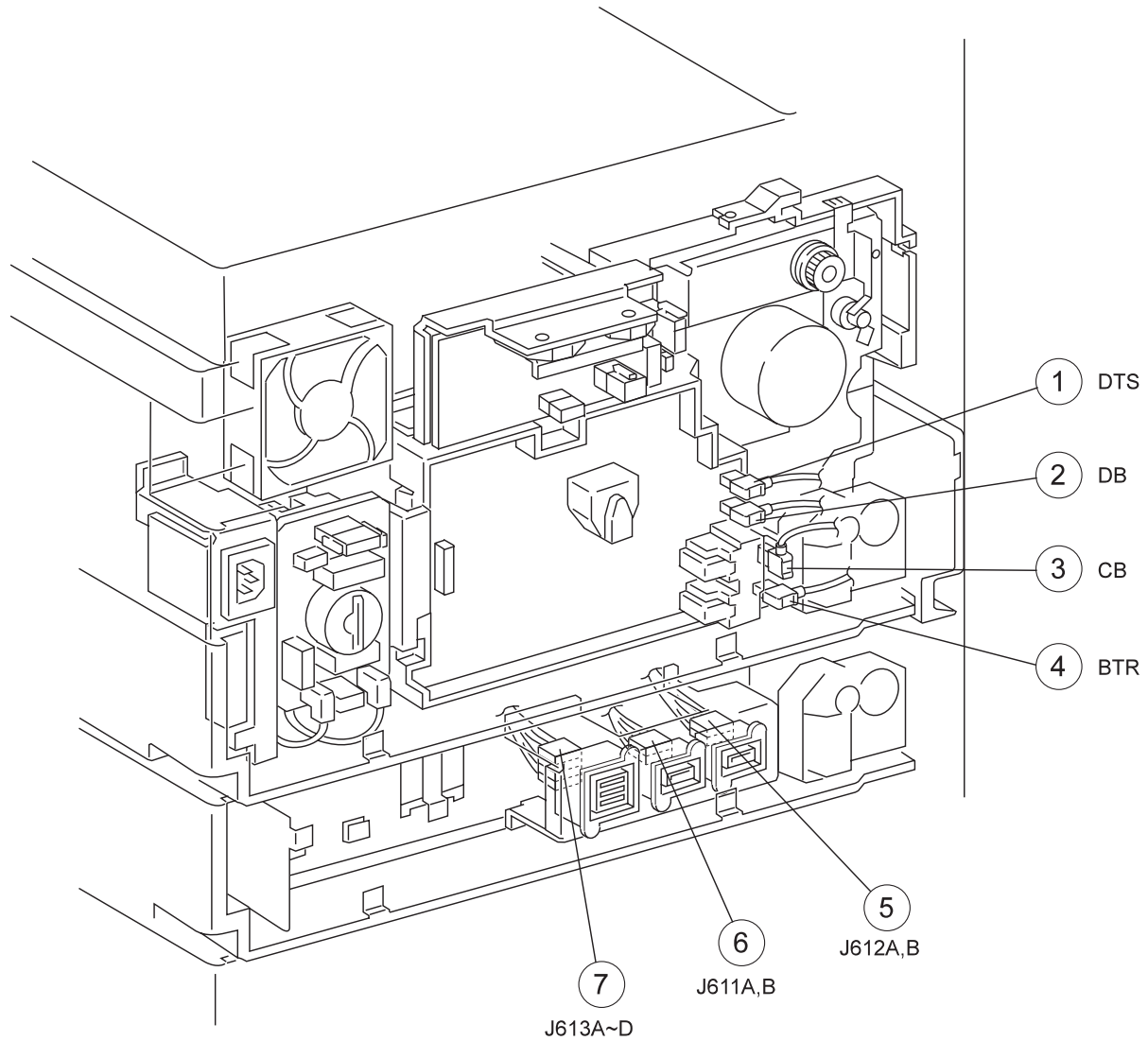
P/J Location Map 7



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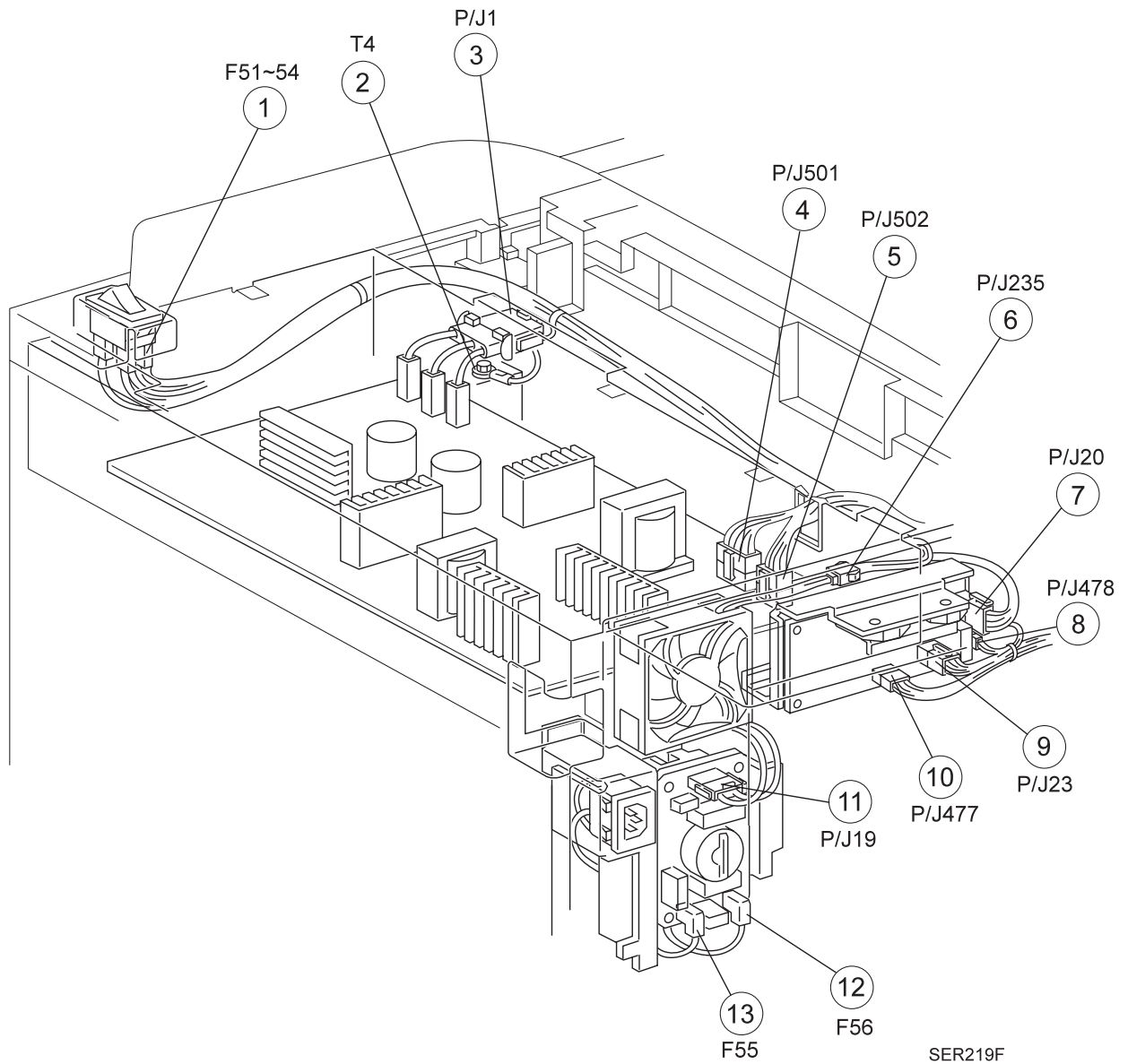
P/J Location Map 8



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P/J Location Map 9



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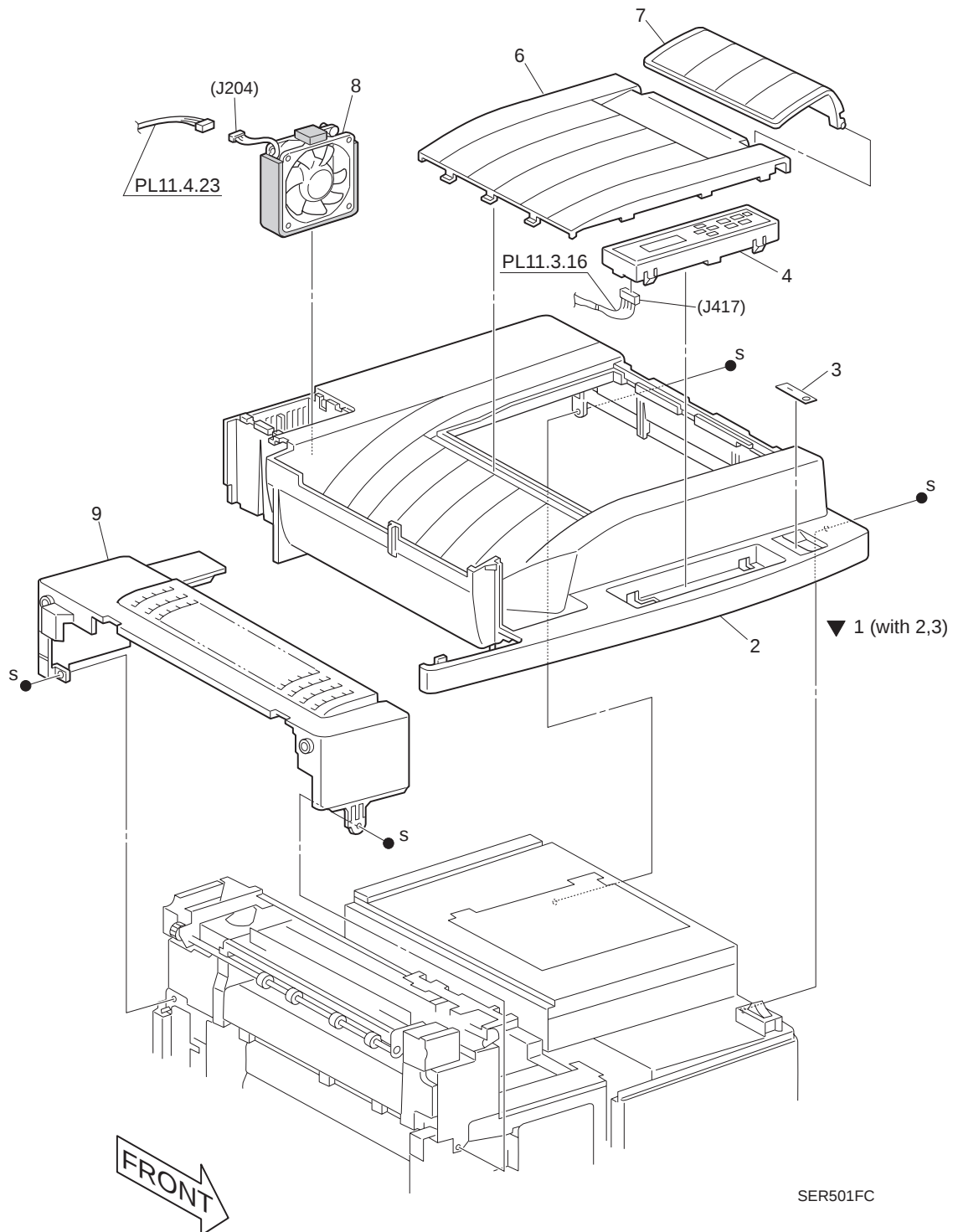
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Section 12 - Parts List

Using the Parts List

1. The numbers shown in each illustration correspond to the parts list number for that illustration.
2. Throughout this manual, parts are identified by the prefix “PL”, followed by a number, a decimal point, and another number. For example, PL3.12 means the part is item 12 of parts list 3.
3. The capital letters “C”, “E”, “KL”, and “S” shown in an illustration stand for C-ring, E-ring, Clamp, and Screw, respectively.
4. A shaded triangle ▼ in an illustration indicates the item is part of an assembly.
5. The notation “**with X~Y**” following an part name indicates an assembly that is made up of components X through Y. For example, “1 (with 2~4)” means part 1 consists of part 2, part 3, and part 4.
6. The symbol \$ following a part name indicates the part is an FX Recommended Part and is constantly stocked and readily available. Other parts may be stocked according to the needs of each individual OEM client.
7. An asterisk * following a part name indicates the page contains a note about this part.
8. The notation “**J1◇J2 and P2**” is attached to a wire harness. It indicates that connector jack 1 is attached to one end of the wire harness and connector jack 2 is attached to the other end that is plugged into plug 2.
9. An RRP number appears at the end of a part line if the technical manual contains a removal and replacement procedure for that part or module.

PL1.1 Top Cover Assembly

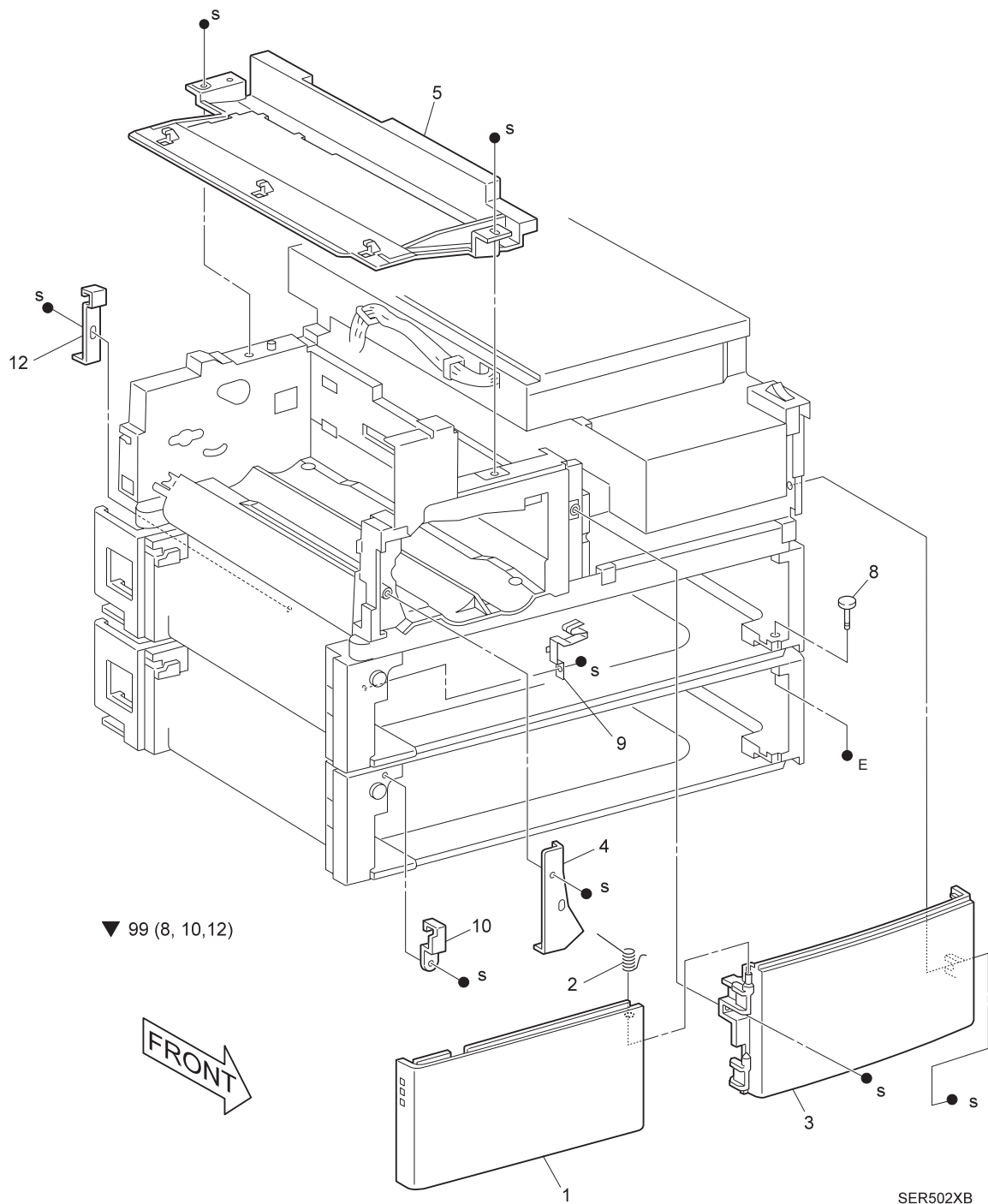


SER501FC

PL1.1 Top Cover Assembly

1. COVER ASSEMBLY (with 2 and 3)	P/N 865048K58481
2. TOP COVER	N/A
3. LABEL SWITCH	N/A
4. CONSOLE PANEL	P/N 865PC010104
5. N/A	
6. COVER ESS	P/N 865002E68401
7. STOPPER	P/N 865003E23652
8. FAN ASSEMBLY FUSER	P/N 865127K19110
9. COVER-FUSER FULL	P/N 865048E37170

PL1.2 Front Cover

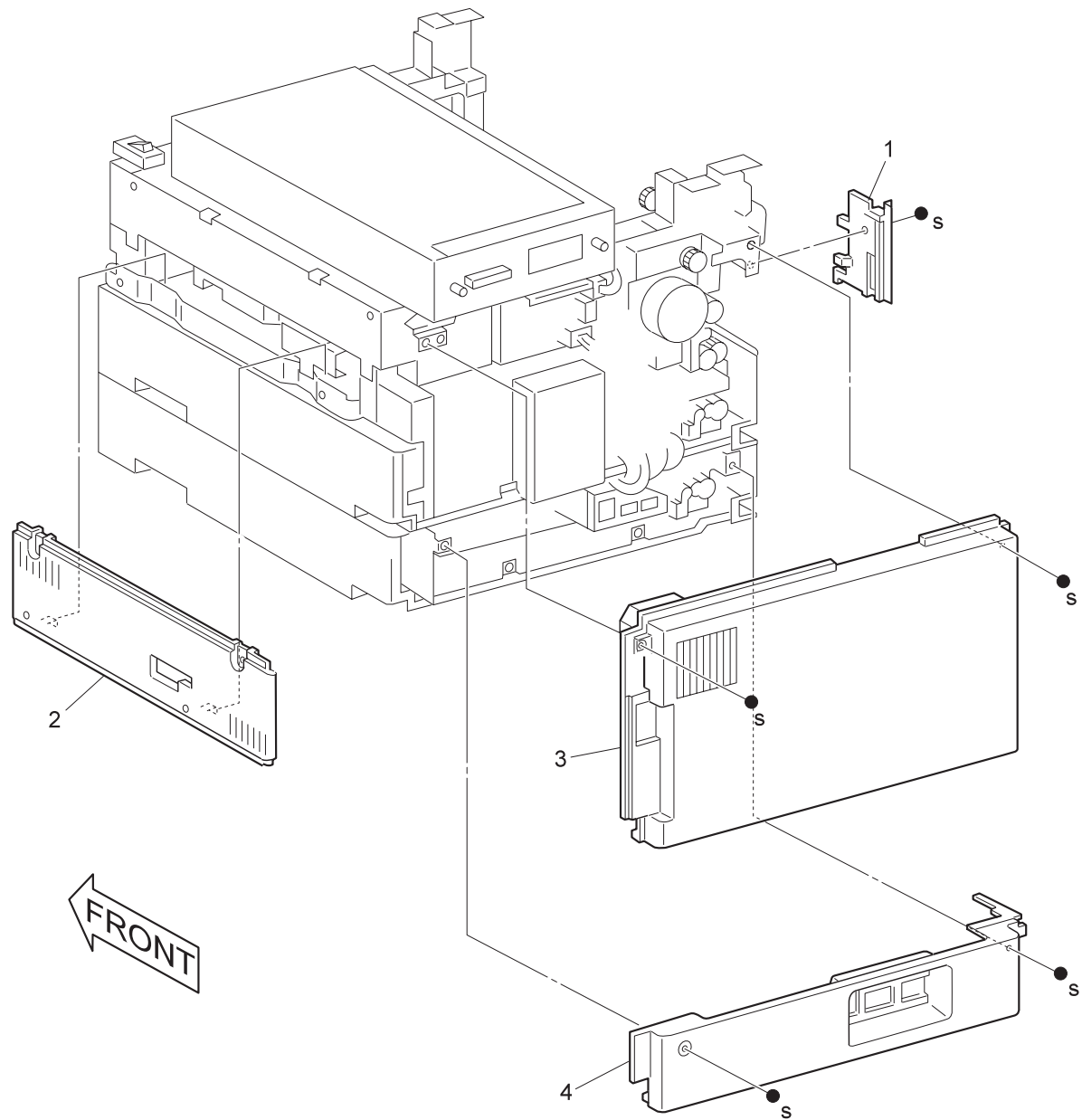


SER502XB

PL1.2 Front Cover

1. COVER ASSEMBLY FL	P/N 865PC010201
2. SPRING TORSION	P/N 865009E62730
3. COVER F/R.....	P/N 865PC010203
4. PLATE MAGNET	N/A
5. DUCT BOTTOM.....	P/N 865054E08320
6. N/A	
7. N/A	
8. STUD DOCKING	N/A
9. SPRING EME FRONT	N/A
10. BRACKET DOCKING LEFT	N/A
11. N/A	
12. BRACKET DOCKING REAR.....	N/A
99. KIT TRAY 2 MOUNTING (8, 10, 12).....	P/N 865600K65430

PL1.3 Rear, Left, and Right Covers



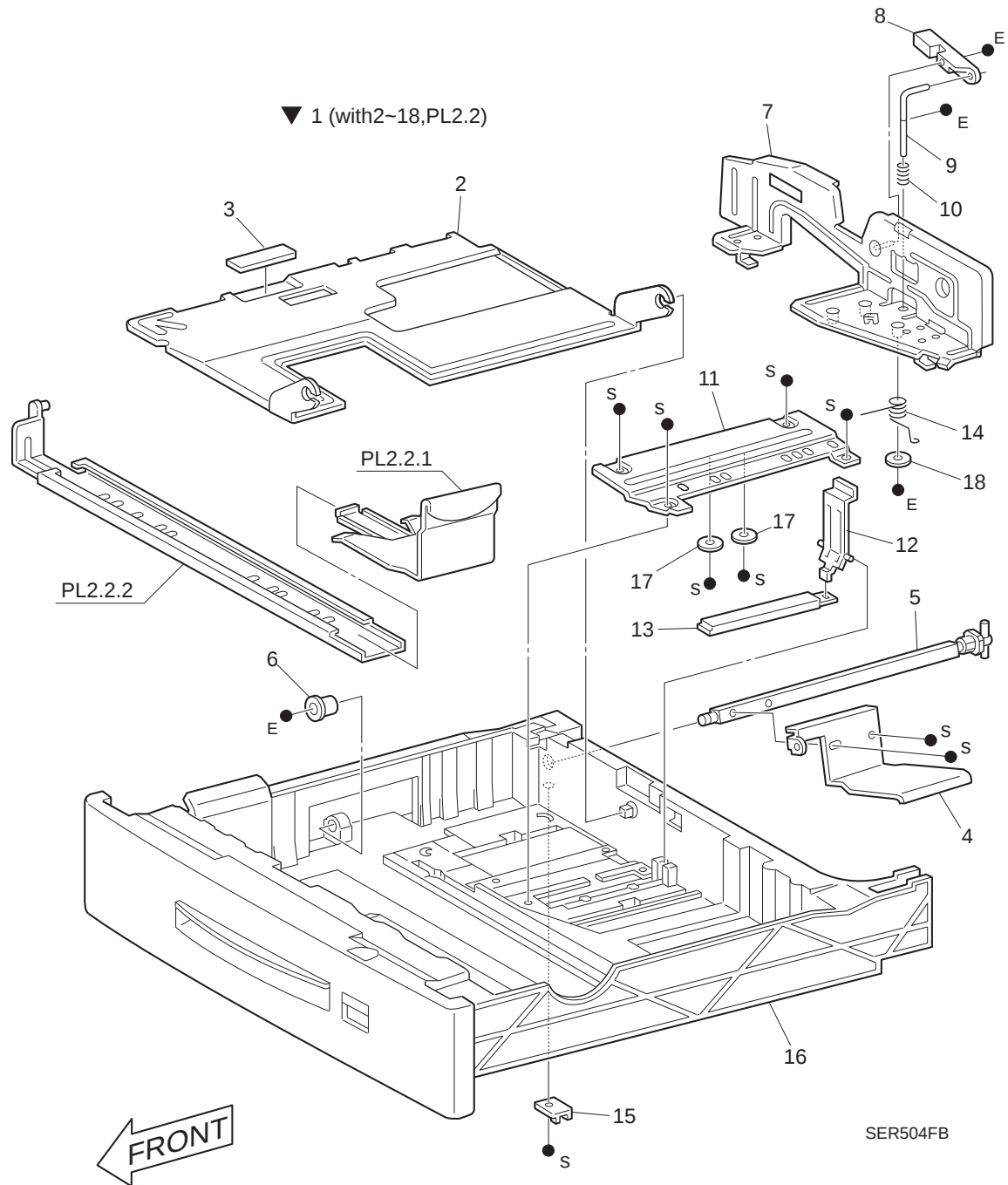
SER503XB

SER503XB

PL1.3 Rear, Left, and Right Covers

1. COVER INNER, LHP/N 865048E37211
2. COVER RHP/N 865048E50030
3. COVER ASSEMBLY, REAR OEMP/N 865048K49621
4. COVER REAR 1TM, OEM.....P/N 865048E37410

PL2.1 Tray Unit - Paper Stack

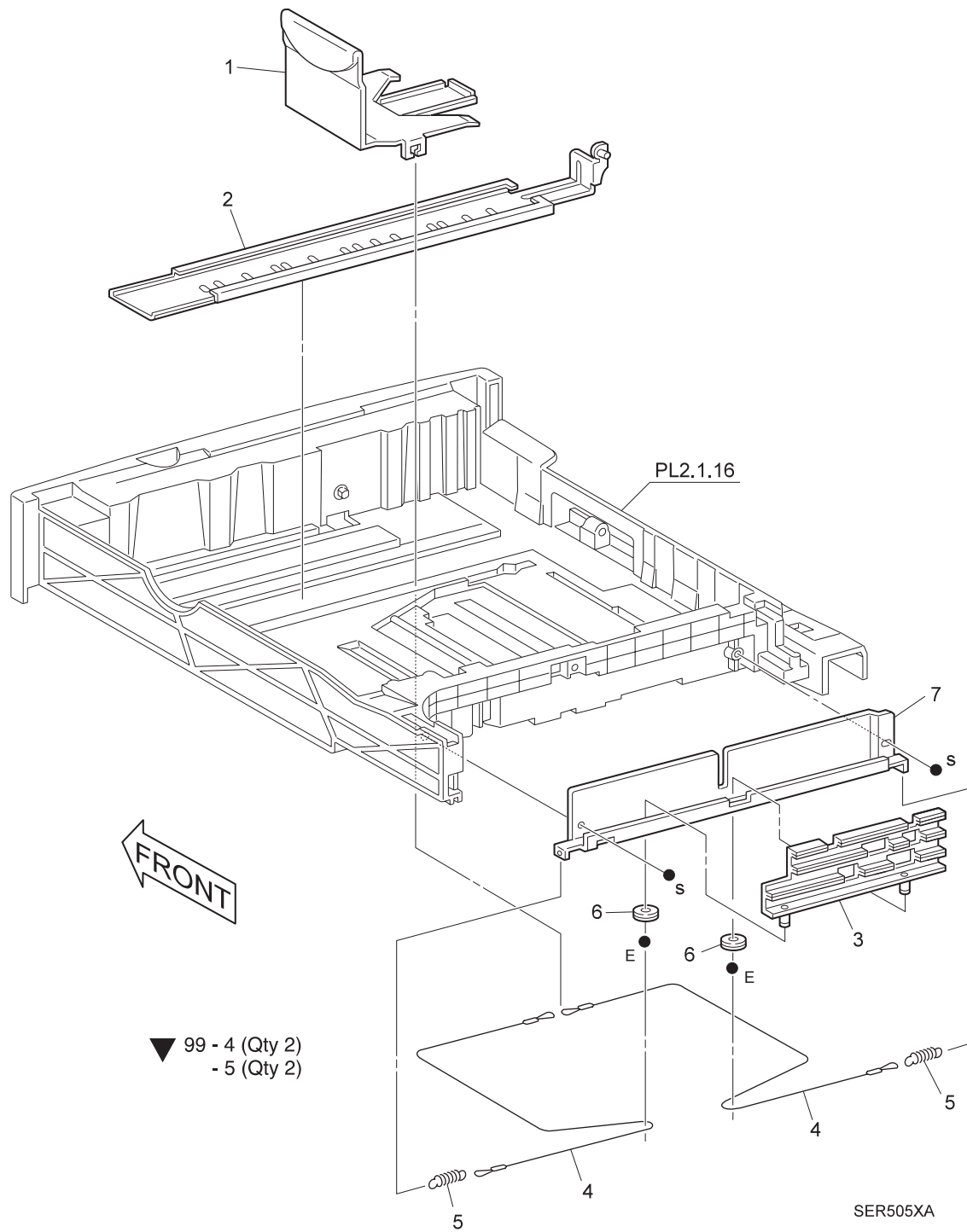


SER504FB

PL2.1 Tray Unit - Paper Stack

1. TRAY ASSEMBLY (with 2 ~ 18 and PL2.2)	P/N 865097K33190
2. PLATE BOTTOM	N/A
3. PAD BOTTOM.....	N/A
4. PLATE TONGUE	N/A
5. SHAFT ASSEMBLY - TONGUE	N/A
6. BEARING.....	N/A
7. GUIDE ASSEMBLY - SIDE.....	N/A
8. LEVER	N/A
9. SHAFT	N/A
10. SPRING - COMP	N/A
11. PLATE SIDE	N/A
12. ACTUATOR	N/A
13. LINK.....	N/A
14. SPRING - TORSION	N/A
15. STOPPER L/H.....	N/A
16. HOUSING - TRAY	N/A
17. WASHER.....	N/A
18. WASHER - SIDE GUIDE	N/A

PL2.2 Tray Unit - End Guide

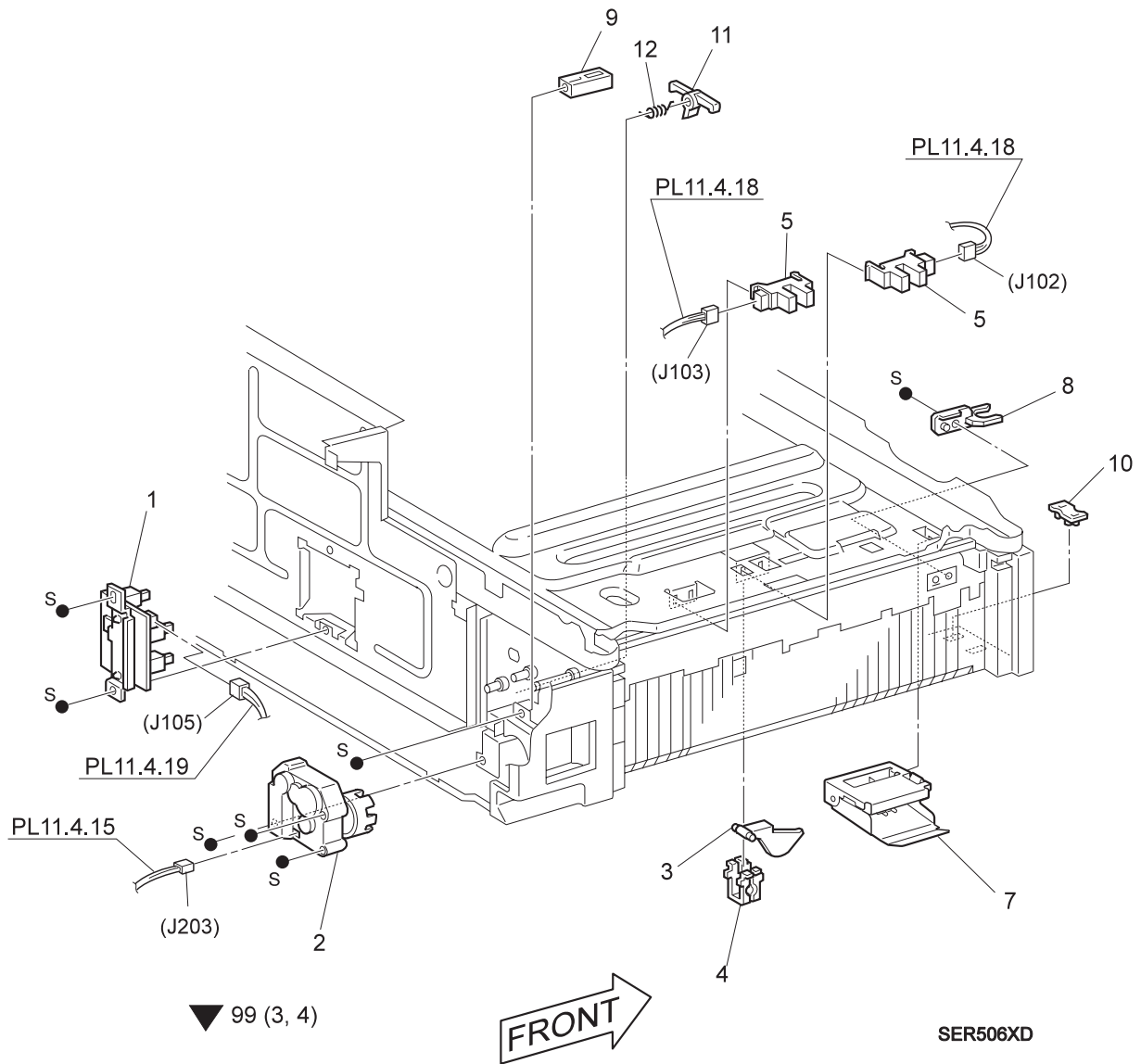


SER505XA

PL2.2 Tray Unit - End Guide

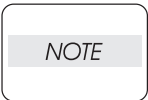
1. GUIDE ASSEMBLY - END	N/A
2. PLATE ASSEMBLY - END	N/A
3. ACTUATOR ASSEMBLY	N/A
4. CABLE ASSEMBLY	N/A
5. SPRING - EXTENSION	N/A
6. PULLEY	N/A
7. GUIDE ACTUATOR.....	N/A
99. KIT CASSETTE CABLES (with 4 (Qty 2) and 5 (Qty 2)).....	P/N 865600K61610

PL3.1 Tray Interface - Tray 1



SER506XD

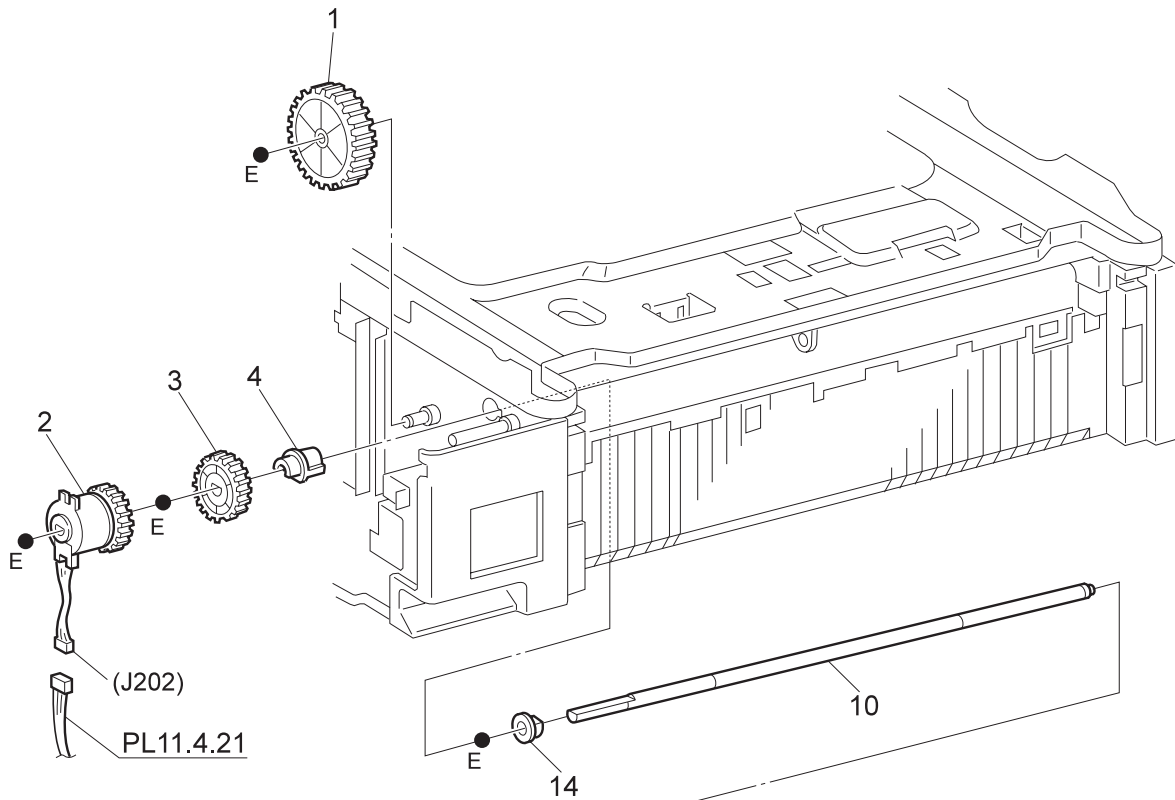
PL3.1 Tray Interface - Tray 1



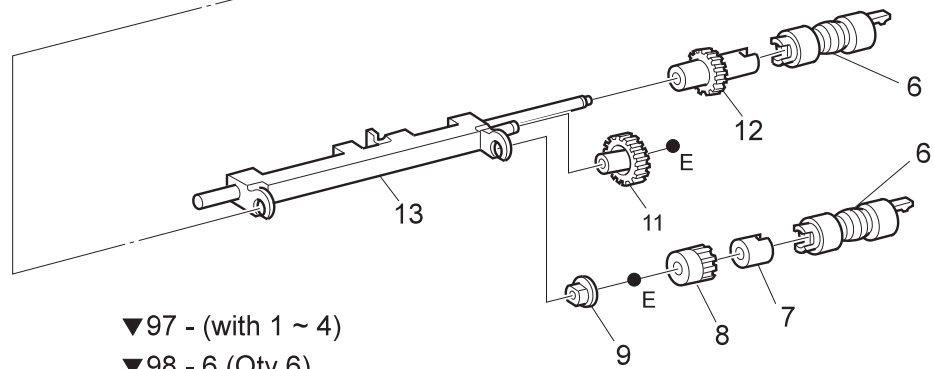
All items, except item 7, in this list can be used with both Tray 1 and Tray 2. Item 7 can be used only with Tray 1.

1. SW ASSEMBLY - PS.....	P/N 865110K07740
2. MOTOR ASSEMBLY	P/N 865127K20661
3. ACTUATOR - SNR.....	N/A
4. SUPPORT ACTUATOR.....	N/A
5. PHOTO INTERRUPTER	P/N 865107E94941
6. N/A	
7. CHUTE ASSEMBLY FRONT, 1T (for Tray 1 only)	N/A
8. STOPPER TRAY, F	P/N 865003E23671
9. STOPPER TRAY, R	P/N 865003E23690
10. SPACER, L	N/A
11. LINK STOPPER	P/N 865023E13230
12. SPRING TORSION.....	P/N 865809E05870
99. KIT ACTUATOR SENSOR ASSY (with 3 and 4)	P/N 865600K65440

PL3.2 Paper Pick Up - Tray 1



▼5 (with 6~14)



- ▼97 - (with 1 ~ 4)
- ▼98 - 6 (Qty 6)
- ▼99 - (with 1 and 3)

SER507XD

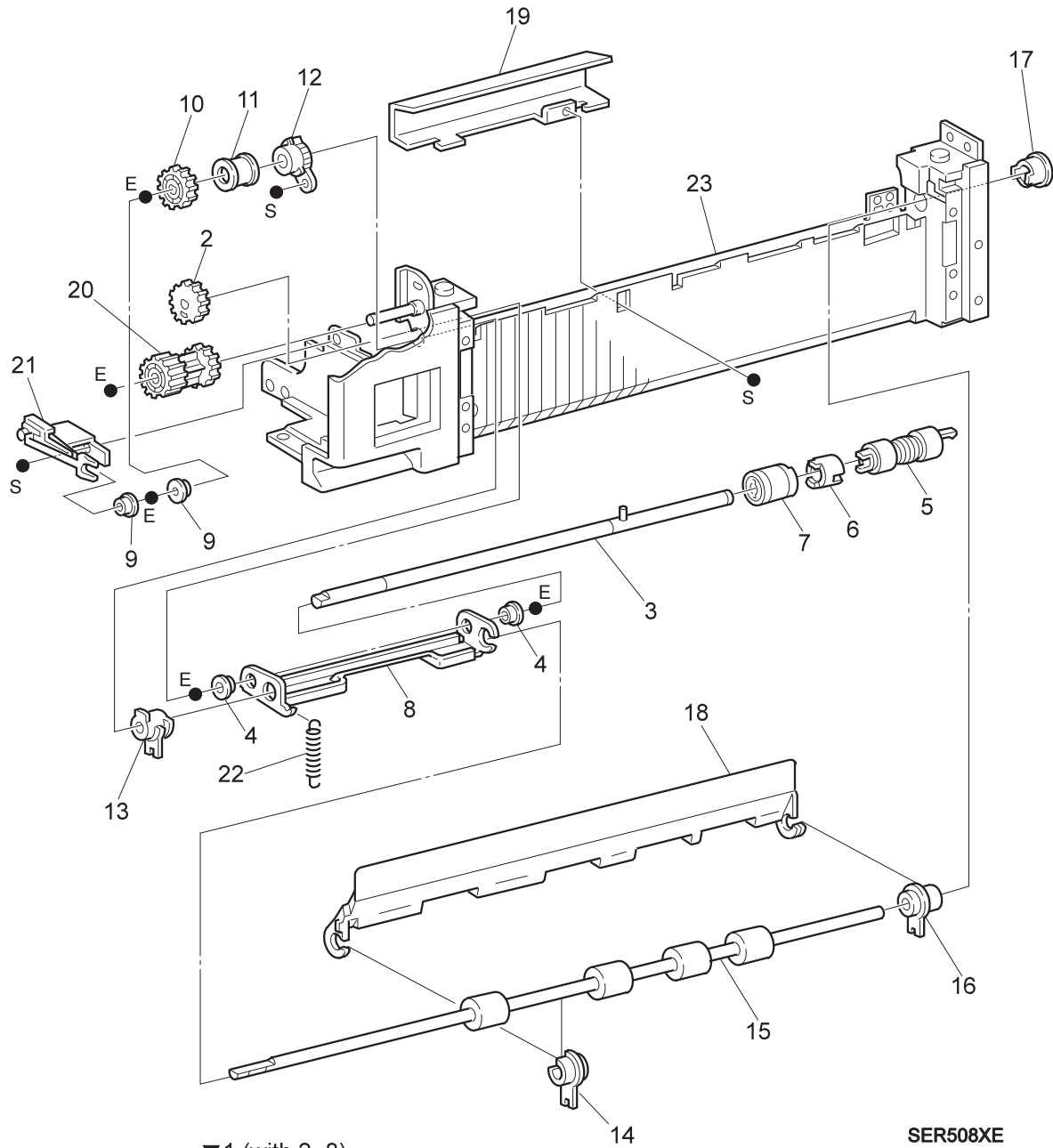
SER507XD

PL3.2 Paper Pick Up - Tray 1**NOTE**

All items, except items 3 and 4, in this list can be used with both Tray 1 and Tray 2. Items 3 and 4 can be used only with Tray 1.

1. GEAR - 46T M/N	N/A
2. CLUTCH ASSEMBLY	P/N 865121K82820
3. GEAR ASSEMBLY 28T M/N (for Tray 1 only).....	N/A
4. CLUTCH ONE-WAY (for Tray 1 only)	P/N 865005K81990
5. FEEDER ASSEMBLY M/N, (with 6 ~ 14)	P/N 865050K29923
6. ROLL ASSEMBLY	P/N 865865022K47342
7. CLUTCH ASSEMBLY O.W.	N/A
8. CLUTCH GEAR 25T	N/A
9. BEARING.....	N/A
10. SHAFT FEED M/N	N/A
11. GEAR 31T	N/A
12. GEAR 25T	N/A
13. SUPPORT ASSEMBLY NUDGER	N/A
14. BEARING.....	N/A
97. KIT TRAY 1 CLUTCH (1 ~ 4)	P/N 865600K65450
98. KIT FEED ROLL (with 6, Qty 6)	P/N 865600K61600
99. KIT PICK UP GEAR TRAY 1 (with 1 and 3)	P/N 865600K56740

PL3.3 Retard and Take Away- Tray 1



▼1 (with 2~8)

▼98 (1, with 9~23)

▼99 (2,10,20)

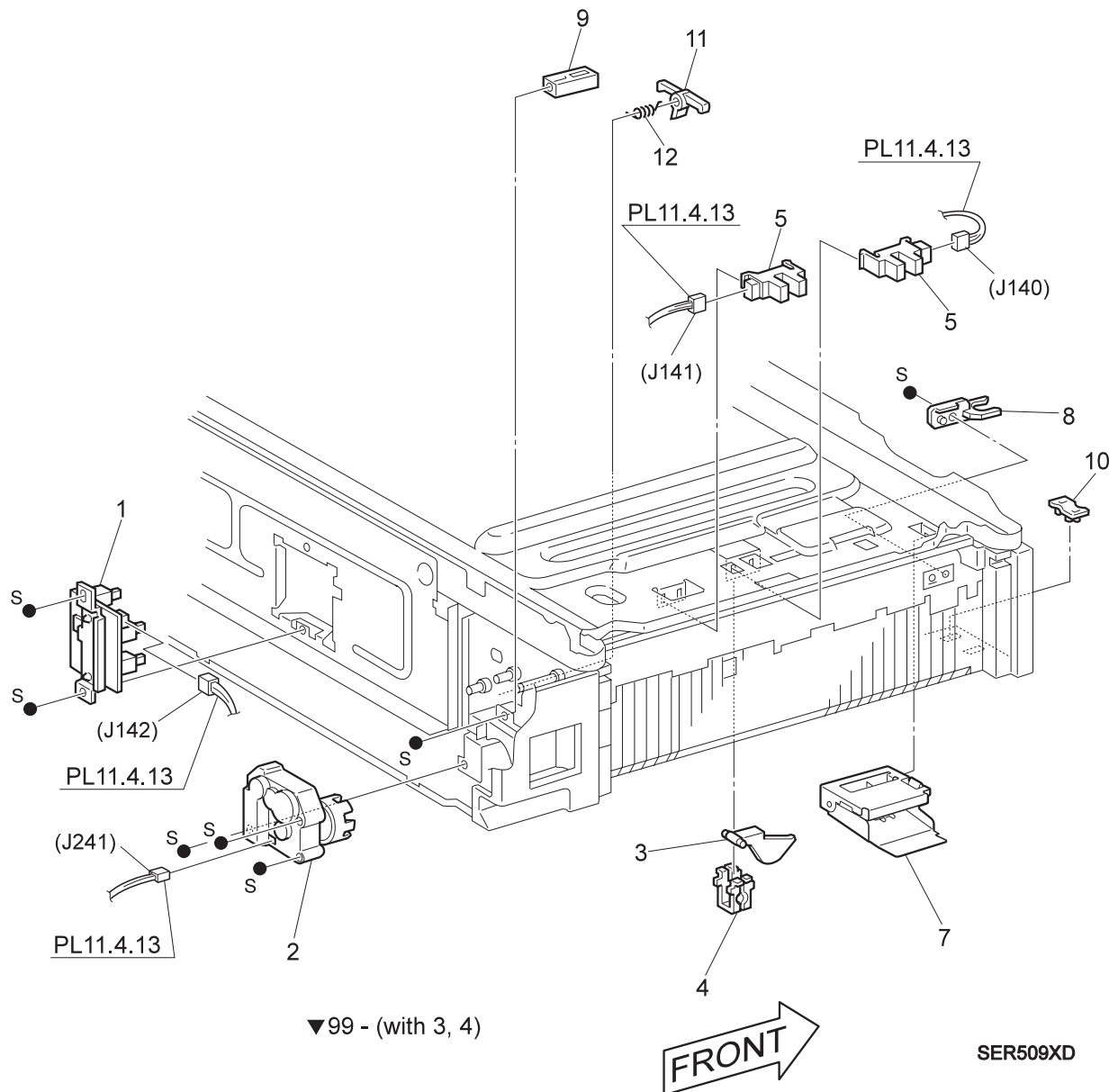
SER508XE

SER508XE

PL3.3 Retard and Take Away- Tray 1

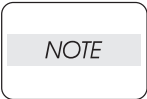
1. RETARD ASSEMBLY, 4 (with 2 ~8)	P/N 865050K29983
2. GEAR 22T	N/A
3. SHAFT ASSEMBLY RET	N/A
4. BEARING	N/A
5. ROLL ASSEMBLY	N/A
6. SPACER	N/A
7. CLUTCH ASSEMBLY - FRICTION	N/A
8. SUPPORT RETARD	N/A
9. BEARING	N/A
10. GEAR 22	N/A
11. SPACER	N/A
12. GEAR STOPPER	N/A
13. BEARING, R	N/A
14. BEARING, C	N/A
15. ROLLER ASSEMBLY S/F	P/N 865022K45890
16. BEARING	N/A
17. BEARING	N/A
18. CHUTE ASSEMBLY FEED, OUT	P/N 865054K88590
19. CHUTE ASSEMBLY FEED, IN	N/A
20. GEAR 22/20, IOT H/N	N/A
21. SUPPORT ASSEMBLY, SPRING	P/N 865074K92500
22. SPRING	P/N 865009E53230
23. RETARD FRAME	N/A
98. RETARD ASSEMBLY TRAY 1 HIGH (with 1 and 9 ~ 23)	P/N 865600K65460
99. KIT TAKE AWAY GEAR TRAY 1 (with 2, 10, and 20)	P/N 865600K60970

PL3.4 Tray Interface - Tray 2



SER509XD

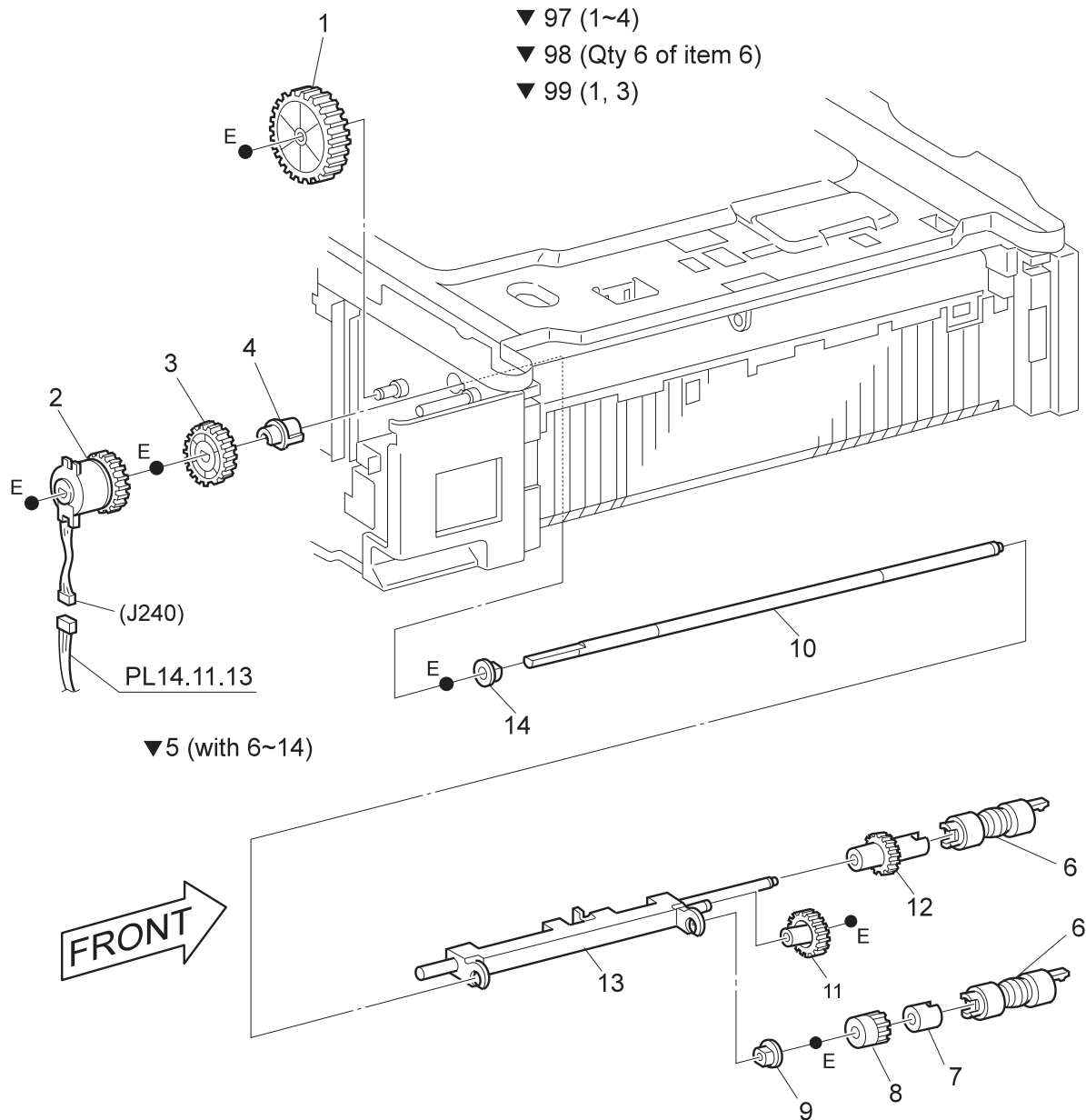
PL3.4 Tray Interface - Tray 2



All items, except item 7, in this list can be used with both Tray 1 and Tray 2. Item 7 can be used only with Tray 2.

1. SW ASSEMBLY PS	N/A
2. MOTOR ASSEMBLY	N/A
3. ACTUATOR - SNR	N/A
4. SUPPORT ACTUATOR.....	N/A
5. PHOTO INTERRUPTER	N/A
6. N/A	
7. CHUTE ASSEMBLY FRONT, 2T (for Tray 2 only).....	N/A
8. STOPPER, TRAY F	N/A
9. STOPPER, TRAY R	N/A
10. SPACER, L	N/A
11. LINK STOPPER.....	N/A
12. SPRING TORSION.....	N/A
99. KIT ACTUATOR SENSOR ASSY (with 3 and 4)	P/N 865600K56730

PL3.5 Paper Pick Up - Tray 2



SER510XD

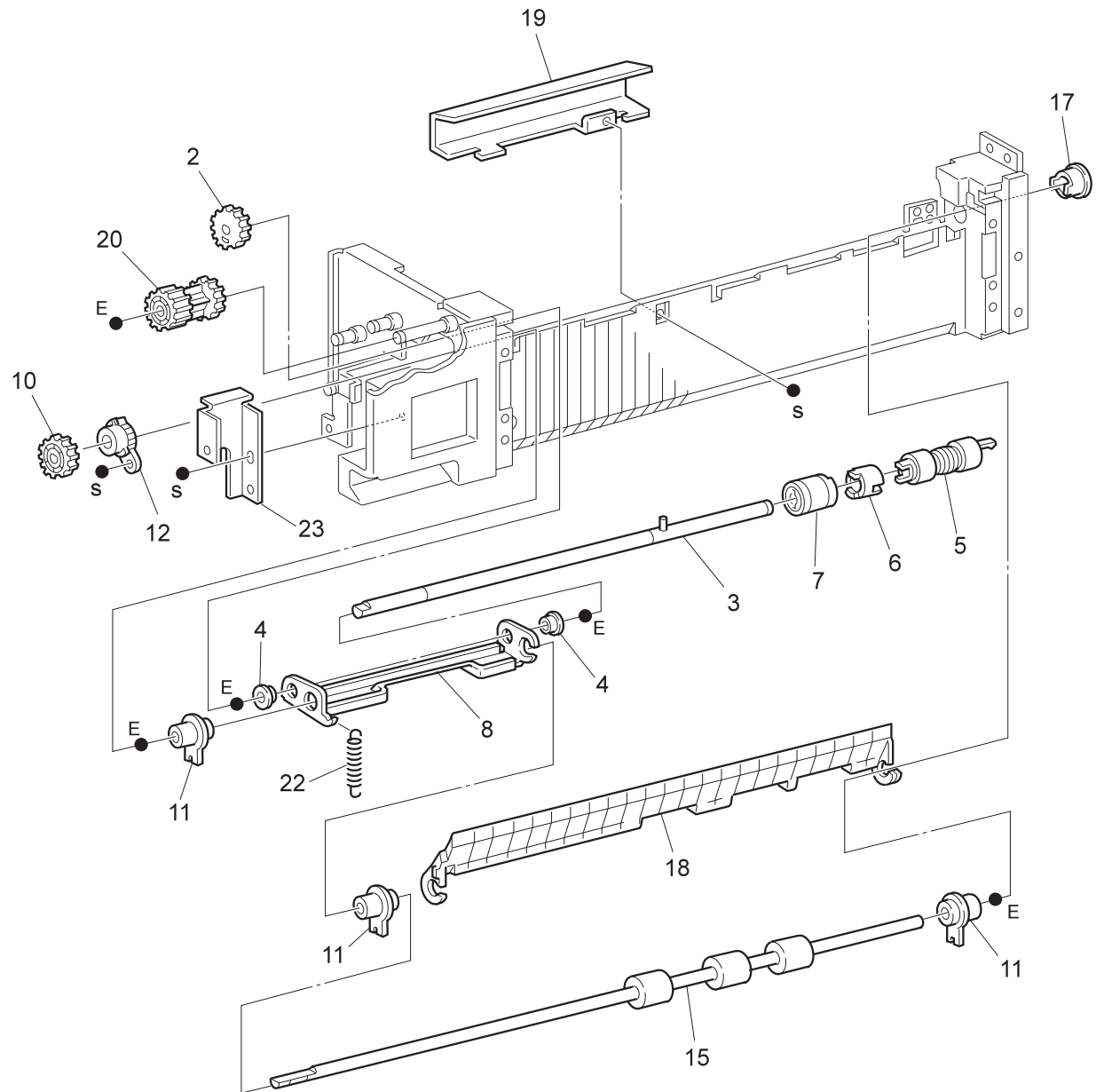
SER510XD

PL3.5 Paper Pick Up - Tray 2**NOTE**

All items, except items 3 and 4, in this list can be used with both Tray 1 and Tray 2. Items 3 and 4 can be used only with Tray 2 and the High Capacity Feeder.

1. GEAR 46T M/N	N/A
2. CLUTCH ASSEMBLY	N/A
3. GEAR 28T M/N (for Tray 2 and High Capacity Feeder only).....	N/A
4. BEARING FEED (for Tray 2 and High Capacity Feeder only).....	P/N 865013E86260
5. FEEDER ASSEMBLY M/N, (with 6 ~ 14).....	N/A
6. ROLL ASSEMBLY	N/A
7. CLUTCH ASSEMBLY OW.....	N/A
8. CLUTCH GEAR 25T	N/A
9. BEARING.....	N/A
10. SHAFT FEED M/N	N/A
11. GEAR 31T	N/A
12. GEAR 25T	N/A
13. SUPPORT ASSEMBLY NUDGER	N/A
14. BEARING.....	N/A
97. KIT TRAY 2 CLUTCH (with 1 ~ 4)	P/N 865600K65470
98. KIT FEED ROLL (Qty 6 of item 6)	N/A
99. KIT PICKUP GEAR TRAY 2 (with 1 and 3)	P/N 865600K60960

PL3.6 Retard and Take Away - Tray 2



SER511XE

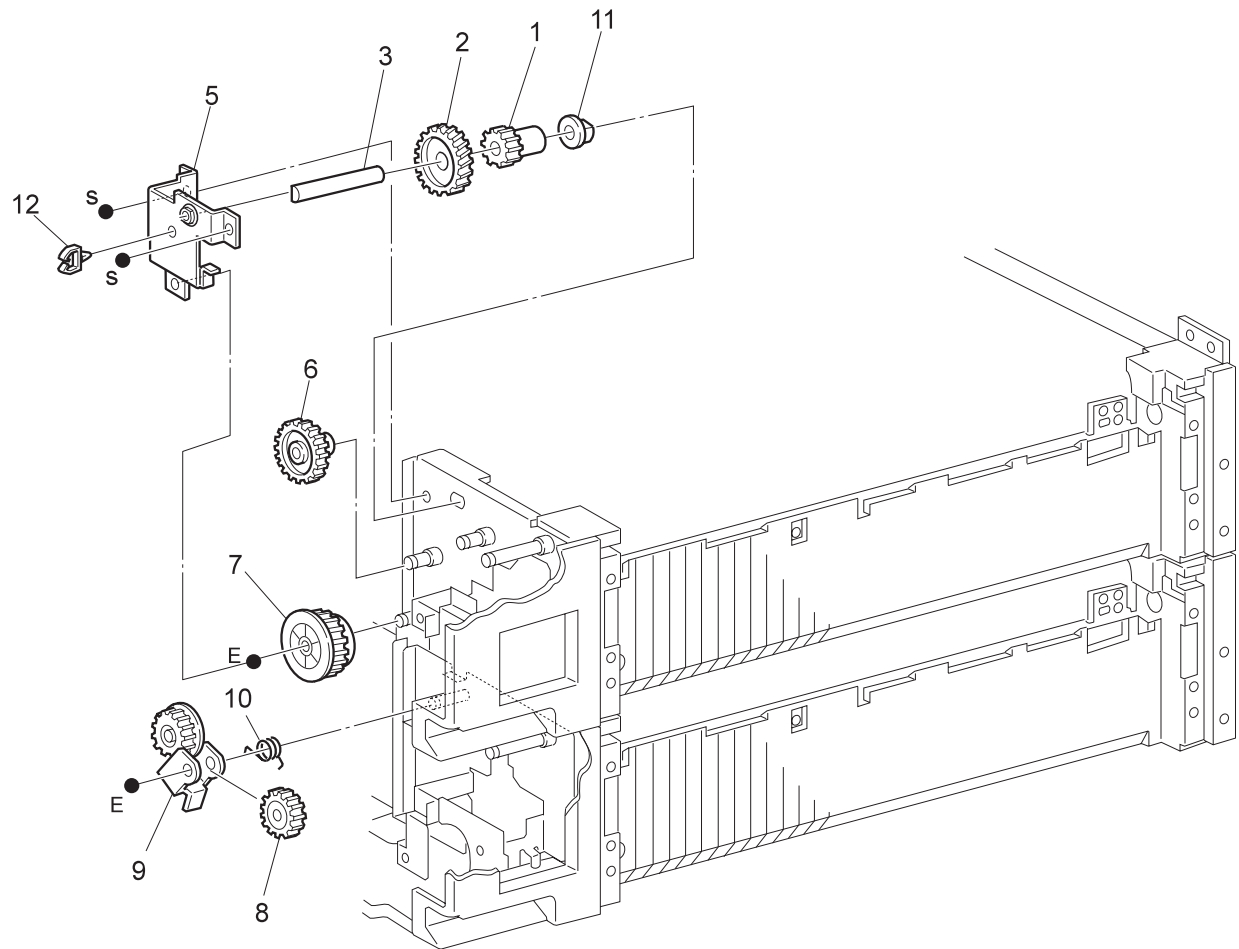
- ▼1 (with 2~8)
- ▼98 (1, 10~23)
- ▼99 (2, 10, 20)

SER511XE

PL3.6 Retard and Take Away - Tray 2

1. RETARD ASSEMBLY, (with 2 ~ 8)	N/A
2. GEAR 22T	N/A
3. SHAFT ASSEMBLY RET	N/A
4. BEARING.....	N/A
5. ROLL ASSEMBLY	N/A
6. SPACER.....	N/A
7. CLUTCH ASSEMBLY - FRICTION.....	N/A
8. SUPPORT RETARD	N/A
9. N/A	
10. GEAR 22	N/A
11. BEARING.....	N/A
12. GEAR STOPPER	N/A
13. N/A	
14. N/A	
15. ROLL ASSEMBLY	P/N 865022K45900
16. N/A	
17. BEARING.....	N/A
18. CHUTE - F/O, ITM,E	P/N 865054E08682
19. CHUTE FEED IN.....	N/A
20. GEAR 22/20, C M/N	N/A
21. N/A	
22. SPRING	N/A
23. BRACKET.....	N/A
98. KIT RETARD TAKEAWAY TRAY 2 (with 1, and 10~23)	P/N 865600K65480
99. KIT TAKE AWAY GEAR TRAY 2 (with 2, 10, and 20)	P/N 865600K56750

PL3.7 Feed Drive Transmission



SER512XE

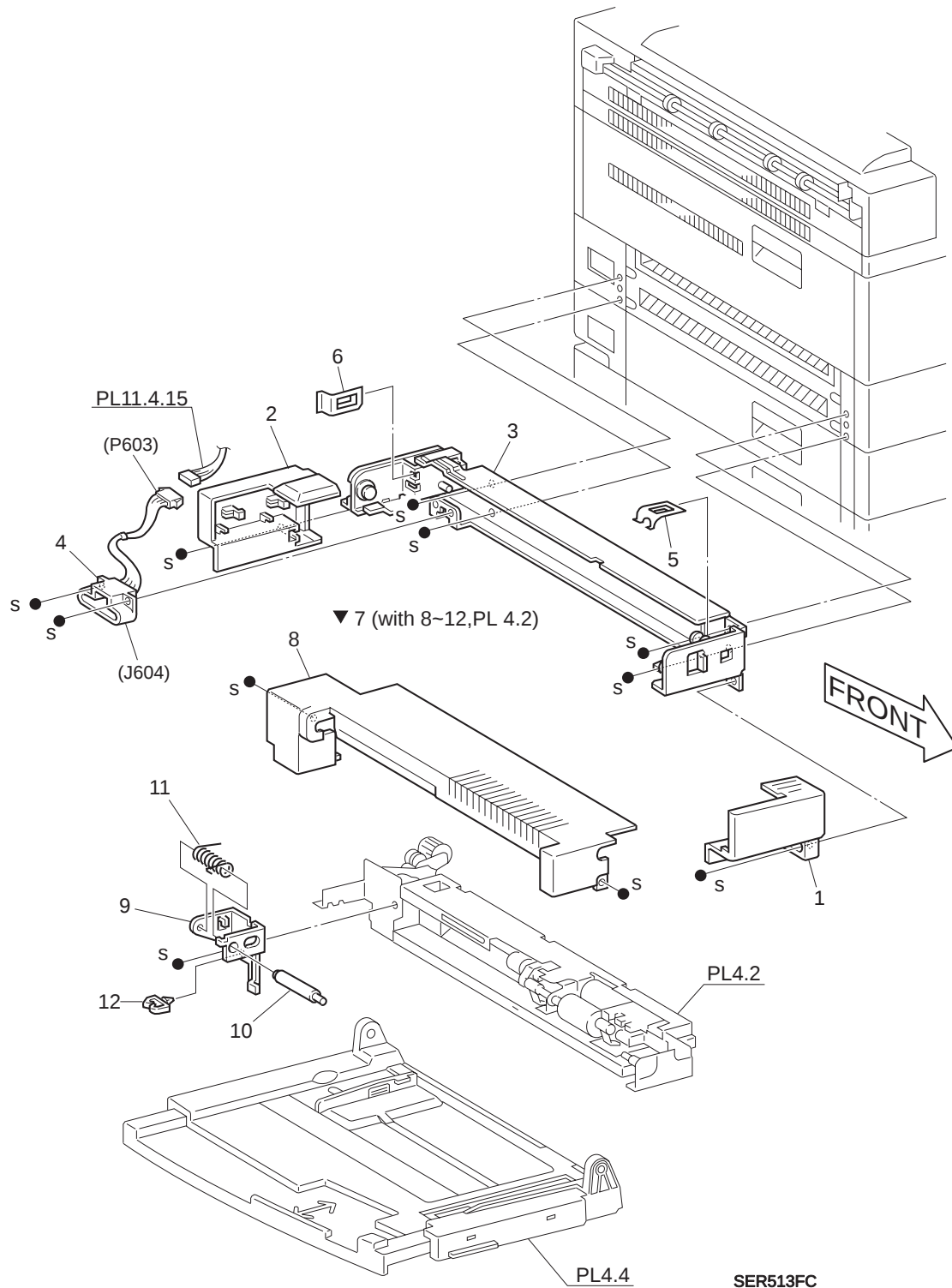
▼ 99 (1, 2, 6~11)

SER512XE

PL3.7 Feed Drive Transmission

1. GEAR 16T	N/A
2. GEAR 30T	N/A
3. SHAFT C/L T/A	N/A
4. N/A	
5. SUPPON/ART C/L T/A	N/A
6. GEAR 31T	N/A
7. GEAR 33T	N/A
8. GEAR 16/22	N/A
9. LINK ASSEMBLY	N/A
10. SPRING TORSION	N/A
11. BEARING	N/A
12. HARNESS CLAMP	N/A
99. KIT FEED DRIVE REPAIR (with 1, 2, and 6 ~ 11)	P/N 865600K60980

PL4.1 Multi Sheet Inserter and MSI/Duplex Support

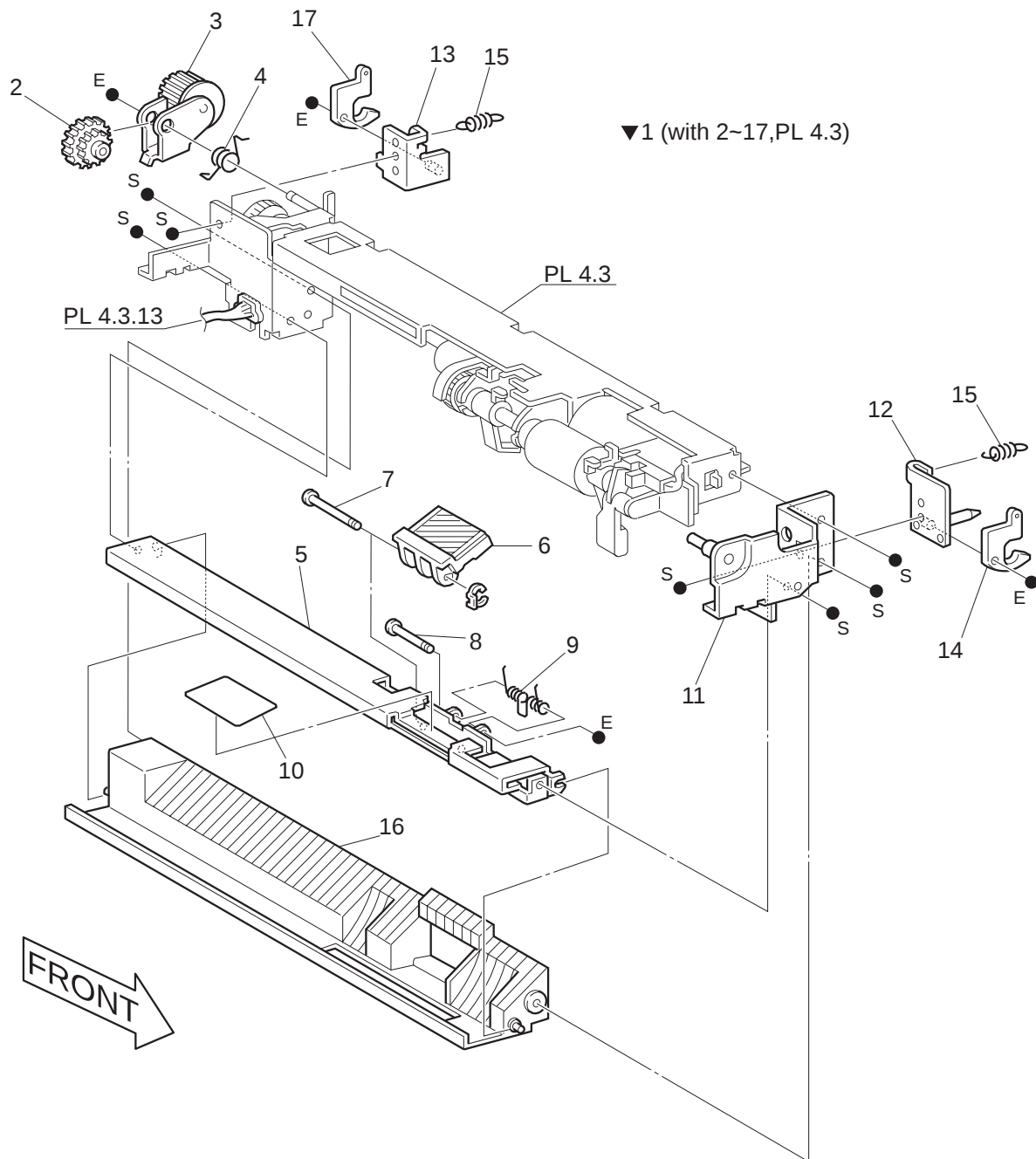


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PL4.1 Multi Sheet Inserter and MSI/Duplex Support

1. SUPPORT FRONT COVER	P/N 865048E37370
2. SUPPORT REAR COVER.....	P/N 865048K58760
3. MSI/DUPLEX SUPPORT ASSEMBLY	N/A
4. HARNESS ASSEMBLY DRAWER (J603 < J604).....	P/N 865162K20380
5. SPRING, DAMPER F	N/A
6. SPRING DAMPER R.....	N/A
7. MULTI SHEET INSERTER ASSEMBLY (with 8 ~ 12 and PL4.2)	N/A
8. MSI TOP COVER	P/N 865048E37401
9. MULTI SHEET TRAY SUPPORT.....	N/A
10. MULTI SHEET INSERTER HINGE STUD.....	N/A
11. MULTI SHEET TRAY SPRING.....	N/A
12. MSI HARNESS CLAMP	N/A

PL4.2 MSI Feeder Assembly



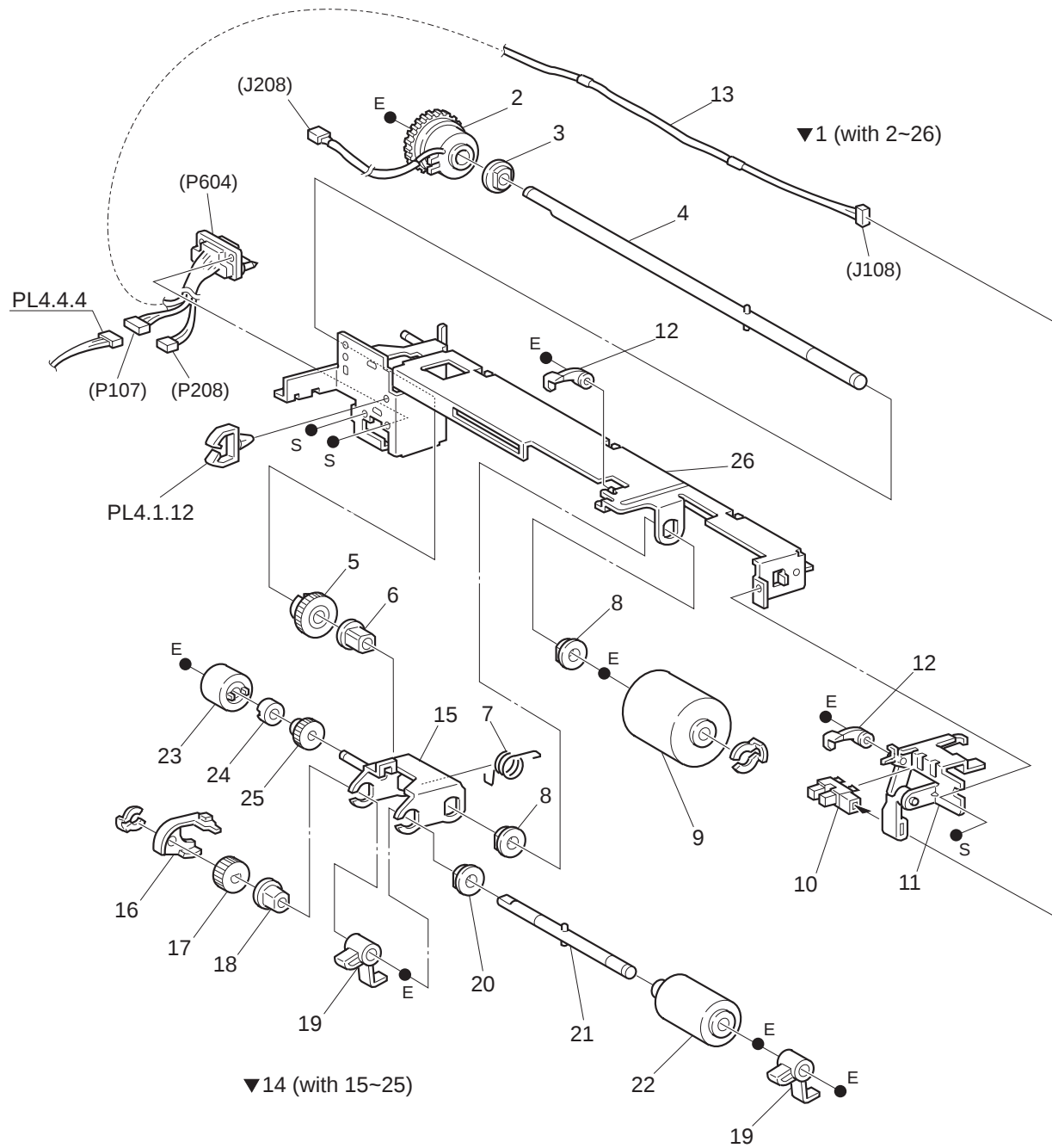
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PL4.2 MSI Feeder Assembly

1. MSI FEEDER ASSEMBLY	P/N 865059K06110
2. MSI LINK GEAR.....	N/A
3. MSI DRIVE GEAR ASSEMBLY	N/A
4. MSI DRIVE LINK SPRING	N/A
5. MSI TIE PLATE	N/A
6. MSI PAD.....	P/N 865019K92810
7. MSI PAD PIN	N/A
8. MSI PAD SHAFT	N/A
9. MSI PAD SPRING	N/A
10. MSI PAPER GUIDE.....	N/A
11. MSI BRACKET	N/A
12. MSI HOOK BRACKET FRONT	N/A
13. MSI HOOK BRACKET REAR	N/A
14. LATCH - FRONT	N/A
15. MULTI SHEET INSERTER HOOK SPRING.....	N/A
16. MSI LOWER CHUTE.....	N/A
17. LATCH - REAR	N/A

PL4.3 Upper Feeder Assembly



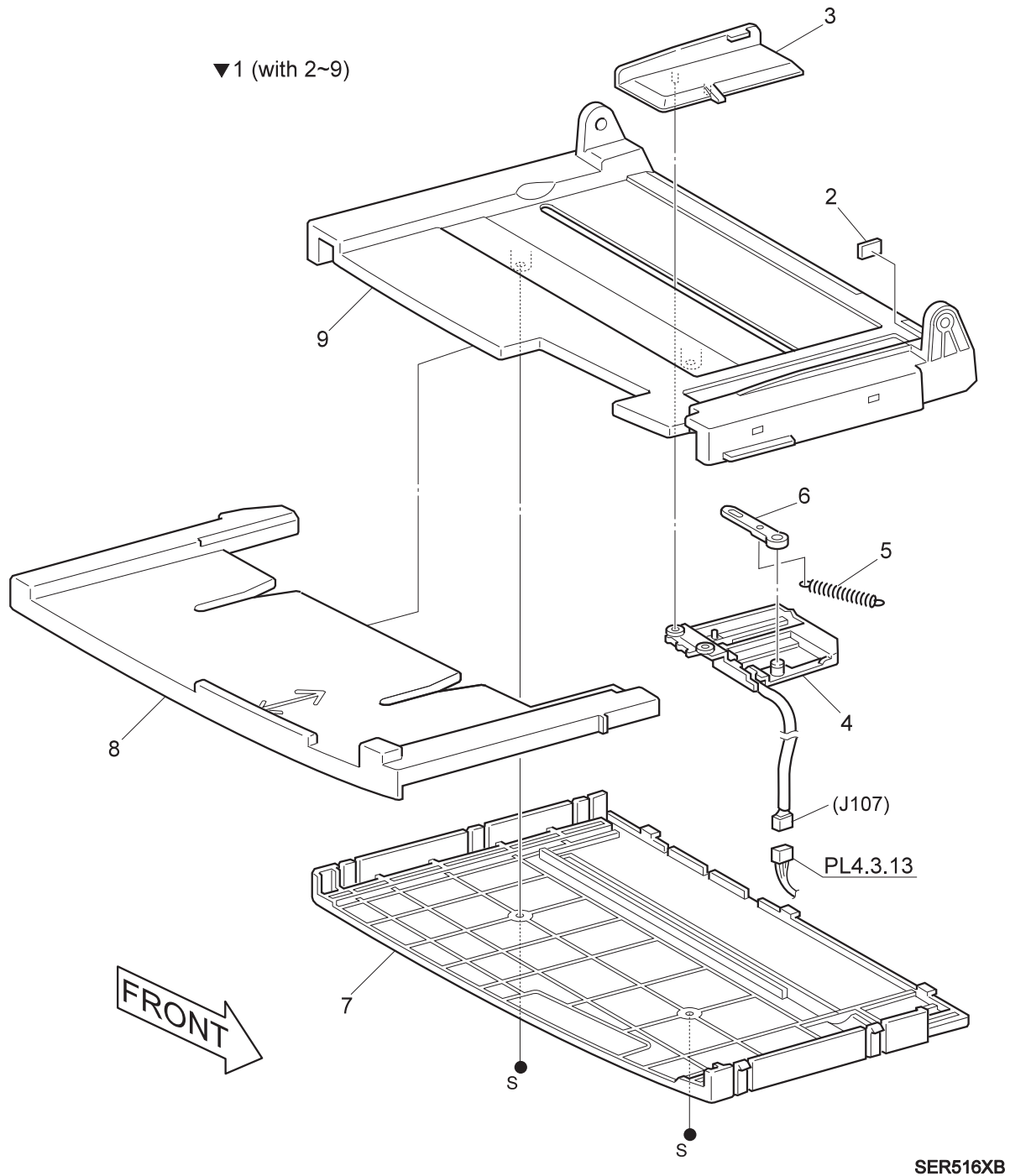
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PL4.3 Upper Feeder Assembly

1. UPPER FEEDER ASSEMBLY (with 2 ~ 26)	N/A
2. MSI FEED CLUTCH	P/N 865121K82880
3. MSI FEED BEARING REAR 1	N/A
4. MSI FEED SHAFT	N/A
5. MSI FEED GEAR	N/A
6. MSI FEED BEARING REAR 2	N/A
7. MSI FEED SPRING	N/A
8. MSI FEED BEARING FRONT	N/A
9. MSI FEED ROLLER	P/N 865022K93360
10. MSI NO PAPER SENSOR	N/A
11. MSI NO PAPER SENSOR BRACKET	N/A
12. MSI STOPPER	N/A
13. MSI WIRE HARNESS (P604 < > J108/P107/P208)	N/A
14. MSI NUDGER ROLLER ASSEMBLY (with 15 ~ 25)	P/N 865059K00430
15. MSI NUDGER ROLLER SUPPORT	N/A
16. MSI NUDGER GEAR COVER	N/A
17. MSI NUDGER GEAR	N/A
18. MSI NUDGER BEARING REAR	N/A
19. MSI GATE	N/A
20. MSI NUDGER ROLLER BEARING FRONT	N/A
21. MSI NUDGER ROLLER SHAFT	N/A
22. MSI NUDGER ROLLER	P/N 865059K00440
23. MSI FRICTION CLUTCH	P/N 865005K80880
24. MSI FRICTION CLUTCH SPACER	N/A
25. MSI FRICTION CLUTCH GEAR	N/A
26. UPPER FEEDER FRAME	N/A

PL4.4 MSI Tray Assembly

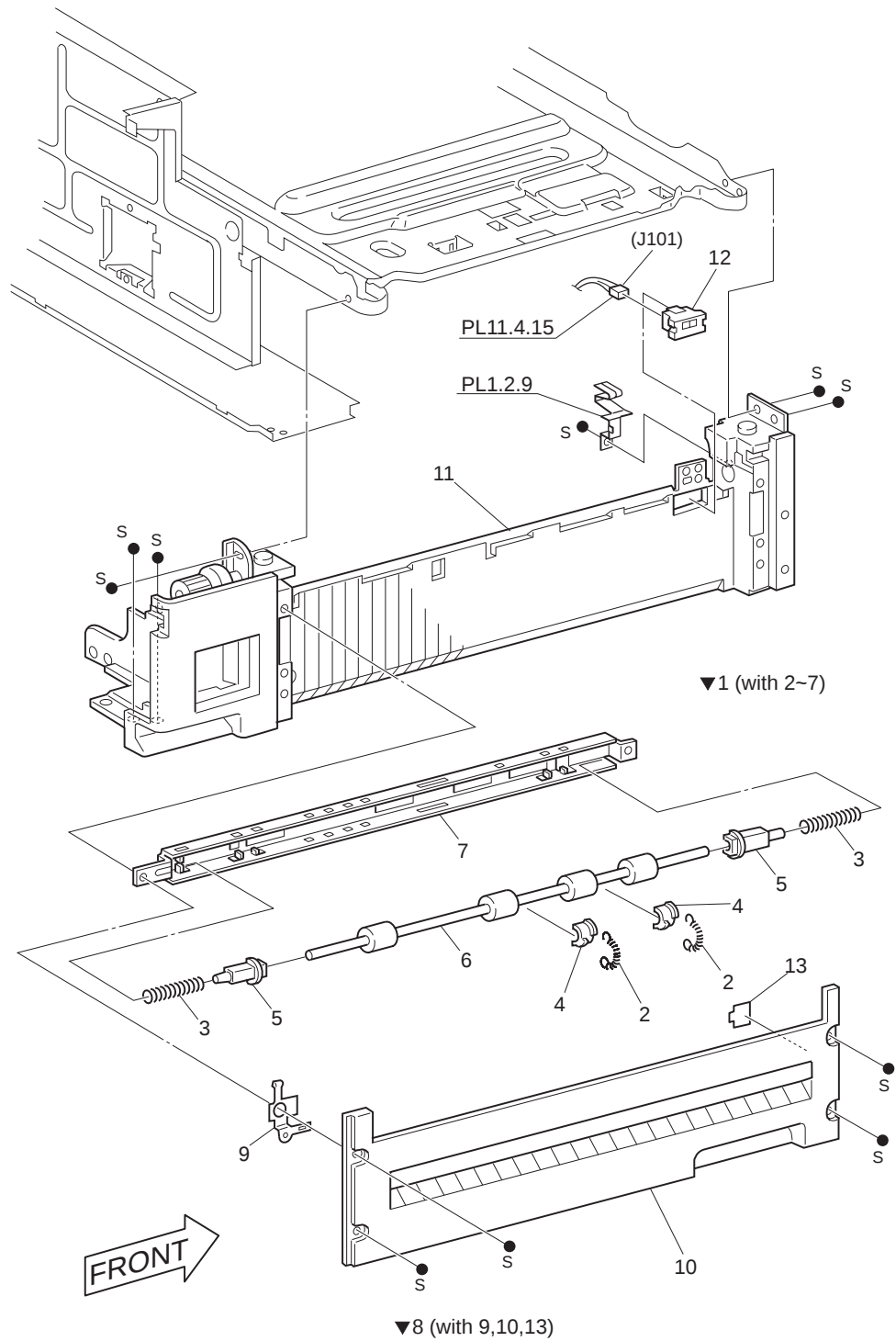


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PL4.4 MSI Tray Assembly

1. MSI TRAY ASSEMBLY (with 2 ~ 9).....	P/N 865PQ040401
2. MSI PAD.....	N/A
3. MSI SIDE GUIDE.....	N/A
4. MSI SIZE SENSOR ASSEMBLY	P/N 865130K83360
5. MSI SIZE GUIDE SPRING	N/A
6. MSI SIZE GUIDE LINK.....	N/A
7. MSI TRAY LOWER COVER.....	N/A
8. MSI TRAY.....	N/A
9. MSI TRAY UPPER COVER.....	N/A

PL5.1 Tray 1 Frame and Left Cover



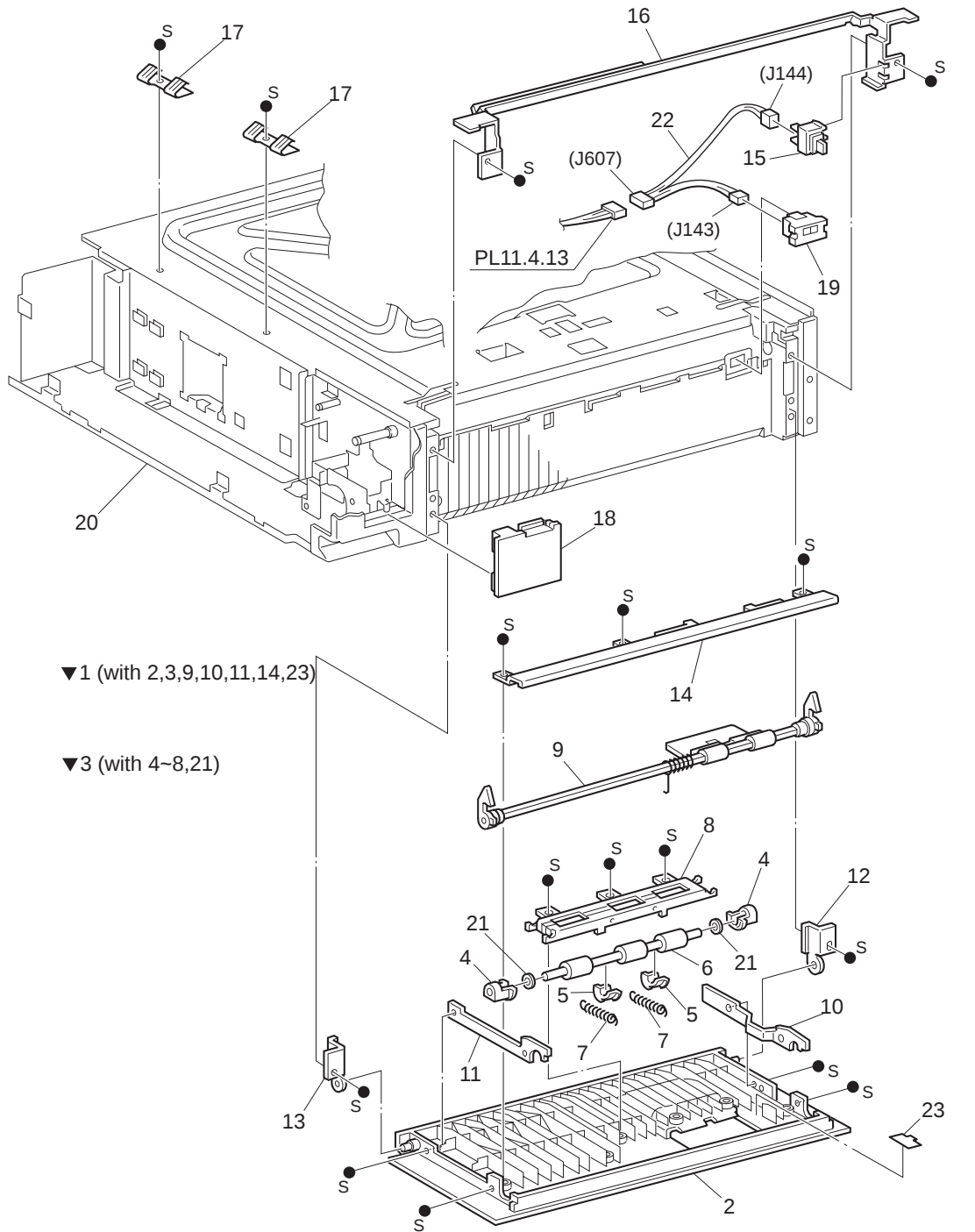
SER517FB

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PL5.1 Tray 1 Frame and Left Cover

1. PINCH ROLL ASSEMBLY (with 2 ~ 7)	P/N 865068K79283
2. HOLDING SPRING	N/A
3. SHAFT SPRING	N/A
4. CENTER BEARING	N/A
5. END BEARING	N/A
6. PINCH ROLLER	N/A
7. PINCH ROLLER BRACKET	N/A
8. COVER ASSEMBLY L/H, LOW (with 9, 10, and 13)	P/N 865048K49430
9. GROUNDING METAL	N/A
10. LEFT MIDDLE COVER	N/A
11. FRAME LH	N/A
12. TAKE AWAY SENSOR 1	P/N 865130E81311
13. TAKE AWAY SENSOR SHIELD	N/A

PL5.2 Tray 2 Frame and Left Cover



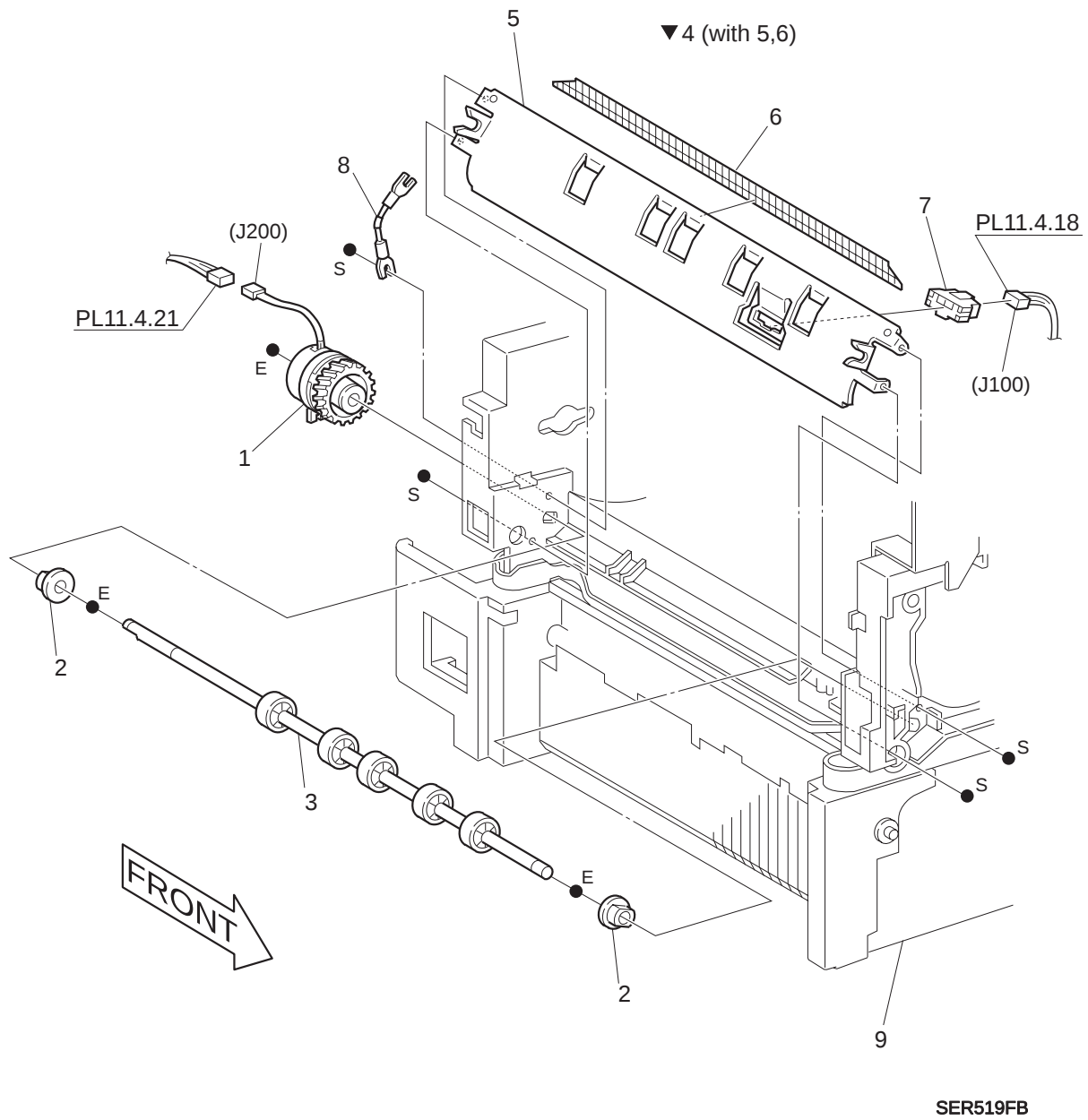
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PL5.2 Tray 2 Frame and Left Cover

1. LEFT LOWER COVER ASSEMBLY (with 2, 3, 9 ~11, 14, and 23).....	P/N 865048K69960
2. LEFT LOWER COVER	N/A
3. PINCH ROLL ASSEMBLY (with 4 ~ 8, and 21)	P/N 865068K83512
4. PINCH ROLL END BEARING.....	N/A
5. PINCH ROLL CENTER BEARING.....	N/A
6. PINCH ROLLER.....	N/A
7. PINCH ROLL SPRING.....	N/A
8. PINCH ROLL BRACKET	N/A
9. LEFT LOWER COVER HANDLE ASSEMBLY	N/A
10. FRONT FRAME	N/A
11. REAR FRAME.....	N/A
12. FRONT HINGE.....	N/A
13. REAR HINGE	N/A
14. FEED OUT CHUTE.....	N/A
15. LEFT LOWER COVER INTERLOCK SWITCH	P/N 865110E93440
16. TRAY 2 WELL TIE PLATE	N/A
17. SPRING - EME	N/A
18. CAP	N/A
19. TAKE AWAY SENSOR	N/A
20. SUPPORT - REAR	N/A
21. WASHER.....	N/A
22. INTERLOCK/SENSOR HARNESS (J607 < > J143/J144).....	N/A
23. TAKE AWAY SENSOR SHIELD	N/A

PL6.1 Registration



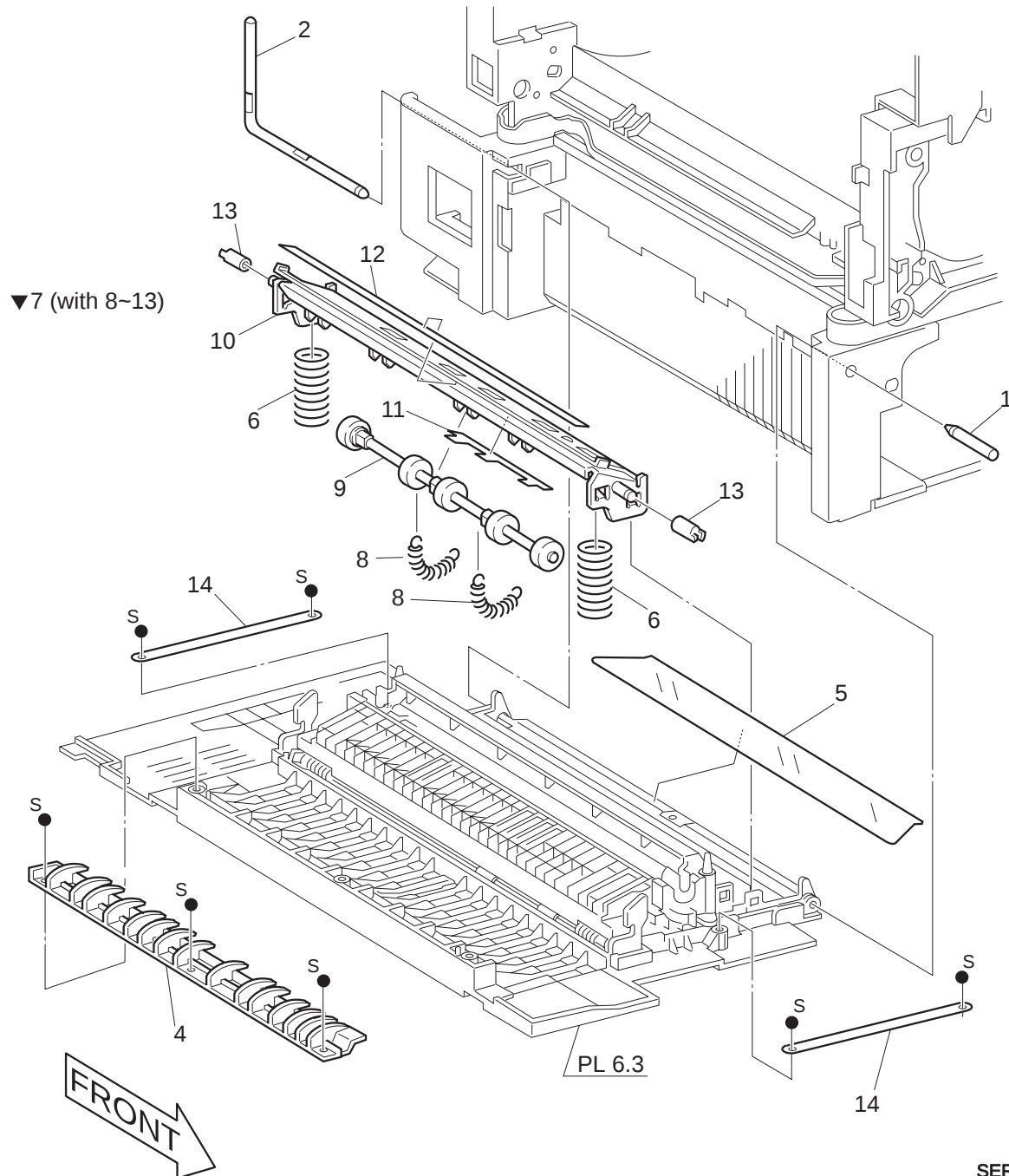
SER519FB

PL6.1 Registration

1. CLUTCH ASSEMBLY REGISTRATION.....	P/N 865121K83190
2. BEARING.....	N/A
3. ROLLER ASSEMBLY REGISTRATION	P/N 865022K33900
4. CHUTE ASSEMBLY REGISTRATION (5 and 6).....	P/N 865054K04252
5. CHUTE REGISTRATION	N/A
6. ELIMINATOR.....	N/A
7. SENSOR.....	N/A
8. RESISTOR ASSEMBLY	P/N 865103K80191
9. FRAME - L/H.....	N/A

PL6.2 Left Upper Cover Assembly

▼3 (with 4~14, PL 6.3)

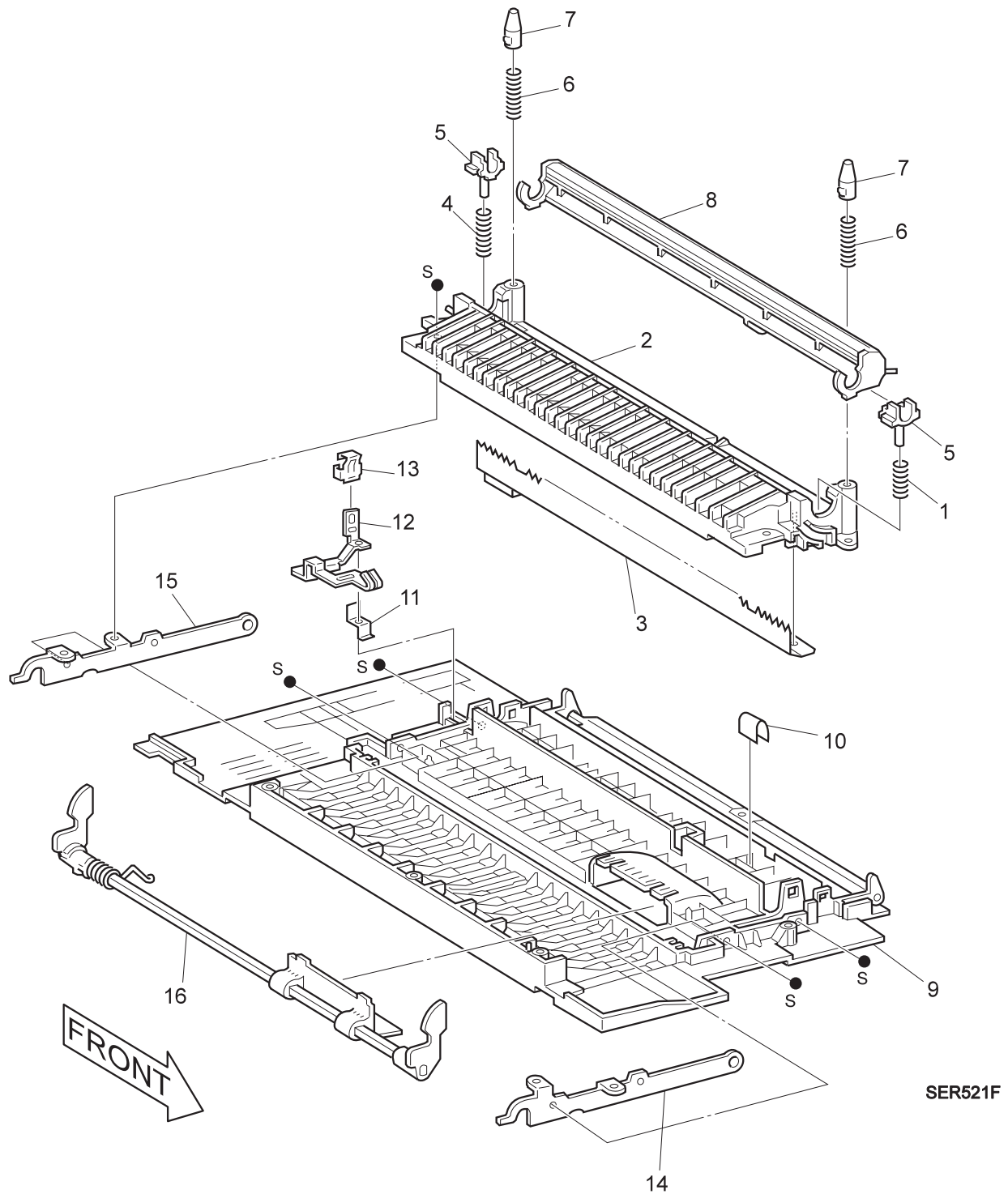


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PL6.2 Left Upper Cover Assembly

1. SHAFT - HINGE	N/A
2. SHAFT - HINGE REAR M/N	N/A
3. COVER ASSEMBLY L/H, (with 4 ~ 14, PL 6.3).....	P/N 865048K57321
4. CHUTE LOWER.....	N/A
5. GUIDE PAPER.....	N/A
6. SPRING COMP.....	N/A
7. CHUTE ASSEMBLY L/H (with 8 ~ 13).....	865054K88604
8. SPRING EXTENSION.....	N/A
9. ROLLER ASSEMBLY - REGISTRATION L/H	N/A
10. CHUTE ASSEMBLY - REGISTRATION L/H.....	N/A
11. GUIDE PAPER.....	N/A
12. GUIDE PAPER.....	N/A
13. PULLEY	N/A
14. SUPPORT - L/H COVER.....	P/N 865074E91101

PL6.3 Transport Chute Assembly

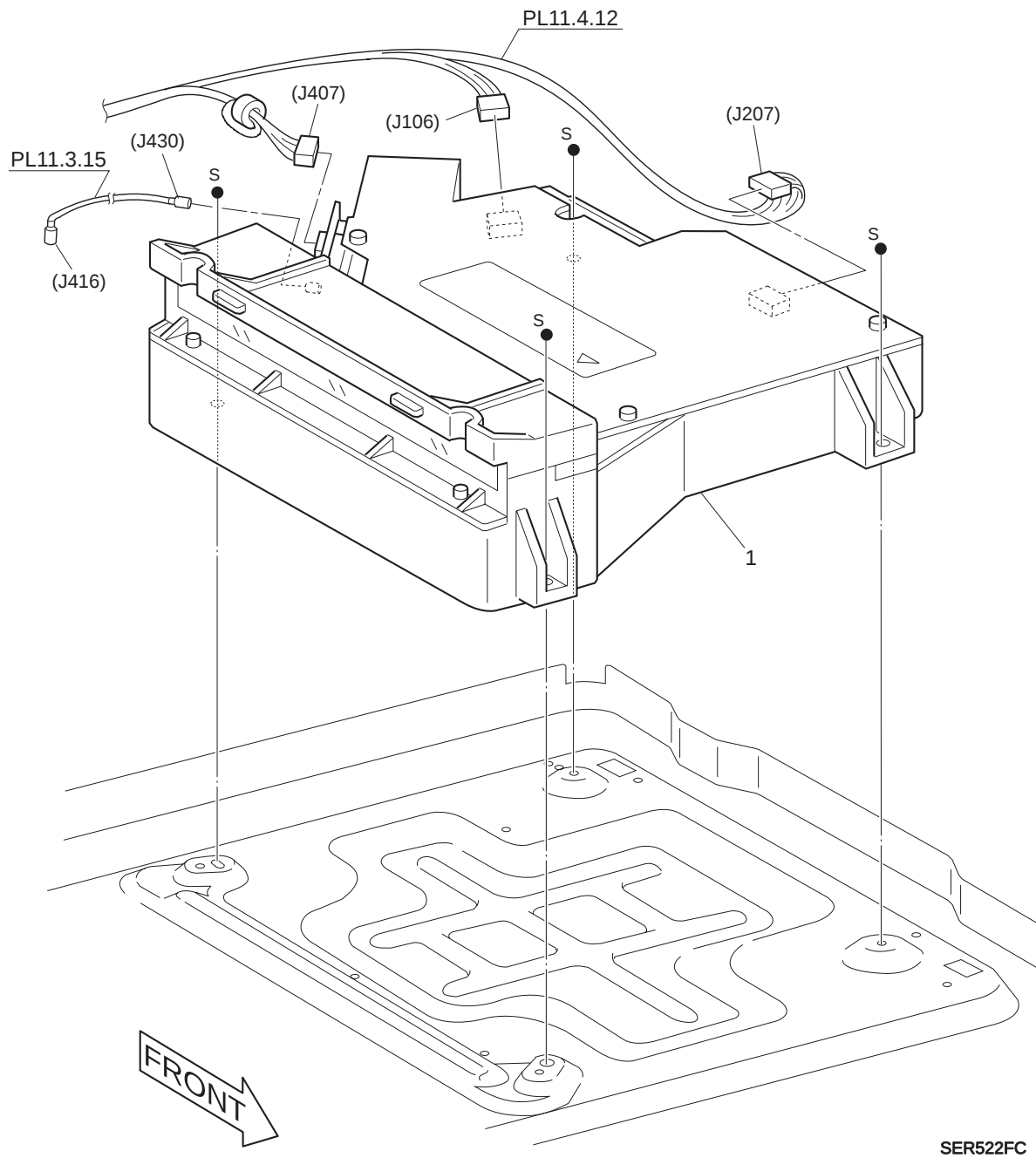


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PL6.3 Transport Chute Assembly

1. BTR SLEEVE SPRING IN	N/A
2. TRANSPORT CHUTE.....	N/A
3. PLATE ELIMINATOR.....	N/A
4. BTR SLEEVE SPRING OUT	N/A
5. BTR SLEEVE	N/A
6. TRANSPORT CHUTE SPRING	N/A
7. TRANSPORT CHUTE ROD	N/A
8. TRANSPORT CHUTE INLET	N/A
9. COVER ASSEMBLY L/H,	N/A
10. PAD - 1	N/A
11. BRACKET - L/H.....	N/A
12. PLATE - CONTACT, L/H	N/A
13. PLATE - CONTACT - L/H, C	N/A
14. FRAME - L/H, F	N/A
15. FRAME - L/H, R	N/A
16. HANDLE ASSEMBLY - L/H	N/A

PL7.1 ROS Assembly



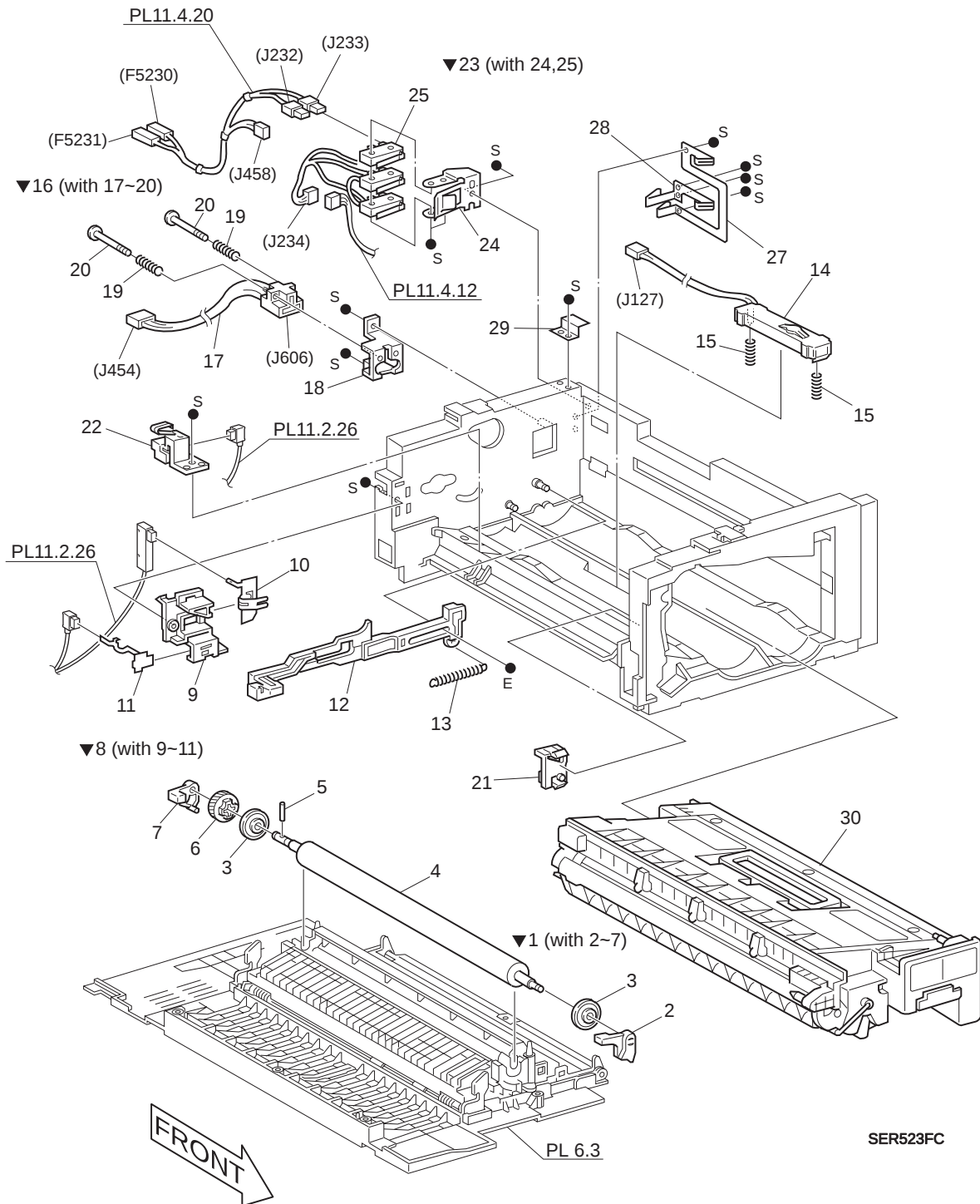
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PL7.1 ROS Assembly

1. ROS ASSEMBLYP/N 865062K97924

PL7.2 Xerography and Development

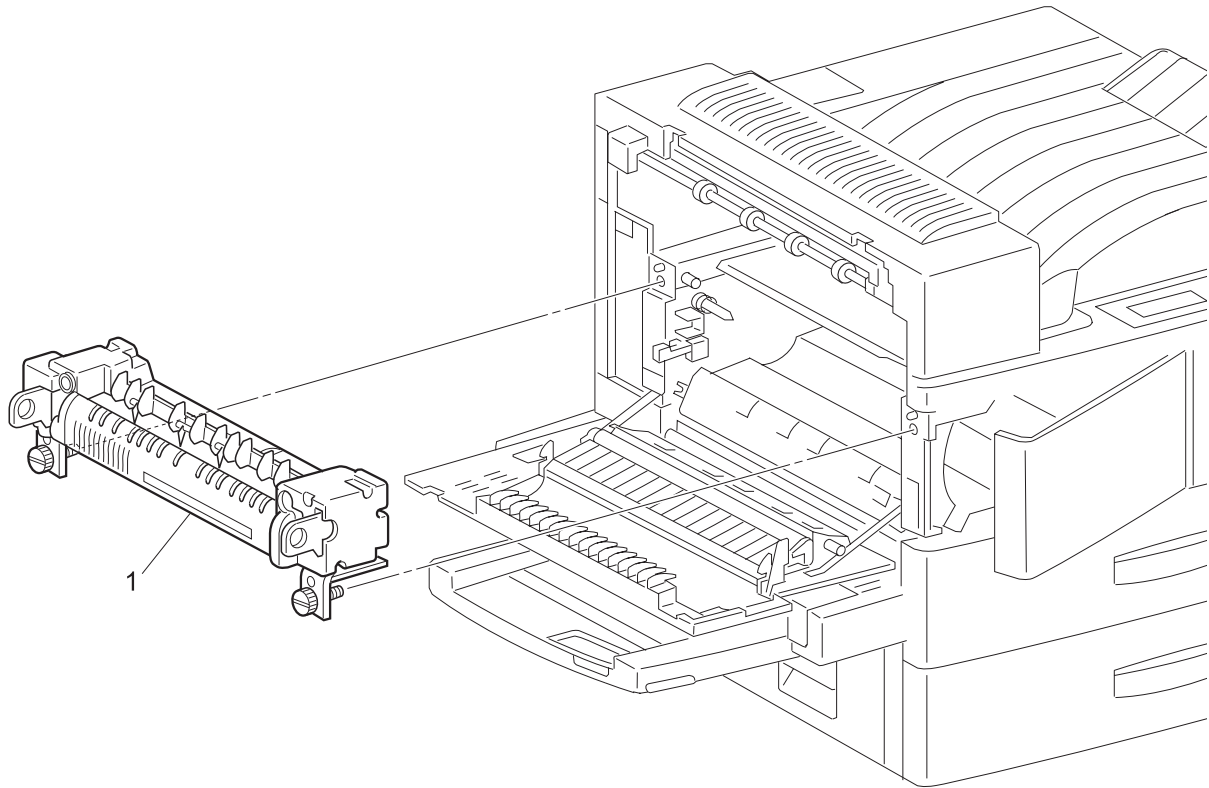


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PL7.2 Xerography and Development

1. BTR ASSEMBLY (with 2 ~ 7).....	865022K48230
2. BTR FRONT LEVER	N/A
3. BTR ROLL	N/A
4. BTR	N/A
5. BTR POSITIONING PIN.....	N/A
6. BTR GEAR.....	N/A
7. BTR GEAR LEVER.....	N/A
8. BTR/DTS GUIDE ASSEMBLY (with 9 ~ 11).....	P/N 865038K81662
9. BTR/DTS GUIDE BRACKET.....	N/A
10. BTR LEAD PLATE.....	N/A
11. DTS LEAD PLATE.....	N/A
12. DTS LINK ROD.....	N/A
13. DTS LINK SPRING.....	N/A
14. TONER EMPTY SENSOR	P/N 865130K55760
15. TONER SENSOR SPRING	P/N 865009E55260
16. CRU CONNECTOR ASSEMBLY (with 17 ~ 20)	P/N 865162K26540
17. CRU CONNECTOR (J454 < > J606)	N/A
18. CRU CONNECTOR BRACKET	N/A
19. CRU CONNECTOR SPRING	N/A
20. STUD SCREW	N/A
21. BTR GUIDE	N/A
22. CB ASSEMBLY	P/N 865019K93342
23. CRU INTERLOCK SWITCH ASSEMBLY (with 24 and 25).....	P/N 865110K98770
24. CRU INTERLOCK SWITCH BRACKET	N/A
25. CRU INTERLOCK SWITCH ASSEMBLY	N/A
26. N/A	
27. PLATE CONTACT C	P/N 865015E50040
28. PLATE CONTACT D.....	P/N 865015E50050
29. PWB STUD	N/A
30. EP CARTRIDGE (Customer Replaceable Unit - CRU	P/N 865113R00049

PL8.1 Fuser Assembly



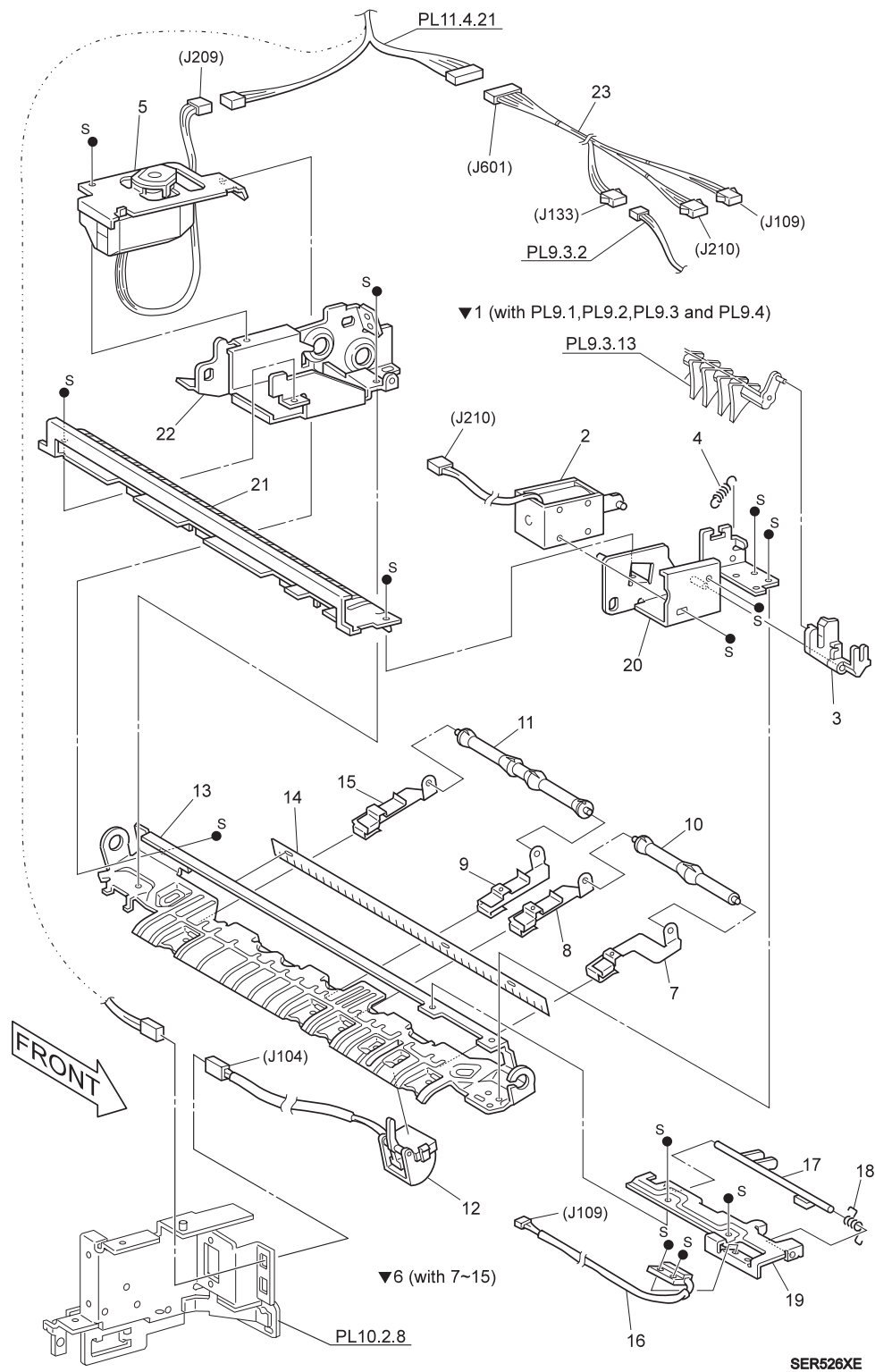
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PL8.1 Fuser Assembly

1. FUSER ASSEMBLY - 115V (Customer Replaceable Unit - CRU)P/N 865126K07780
FUSER ASSEMBLY - 220V (Customer Replaceable Unit - CRU)P/N 865126K07790
2. MAINTENANCE KIT - 100VP/N 865097K33200
3. MAINTENANCE KIT - 110VP/N 865097K33210
4. MAINTENANCE KIT - 220V5P/N 865097K33220

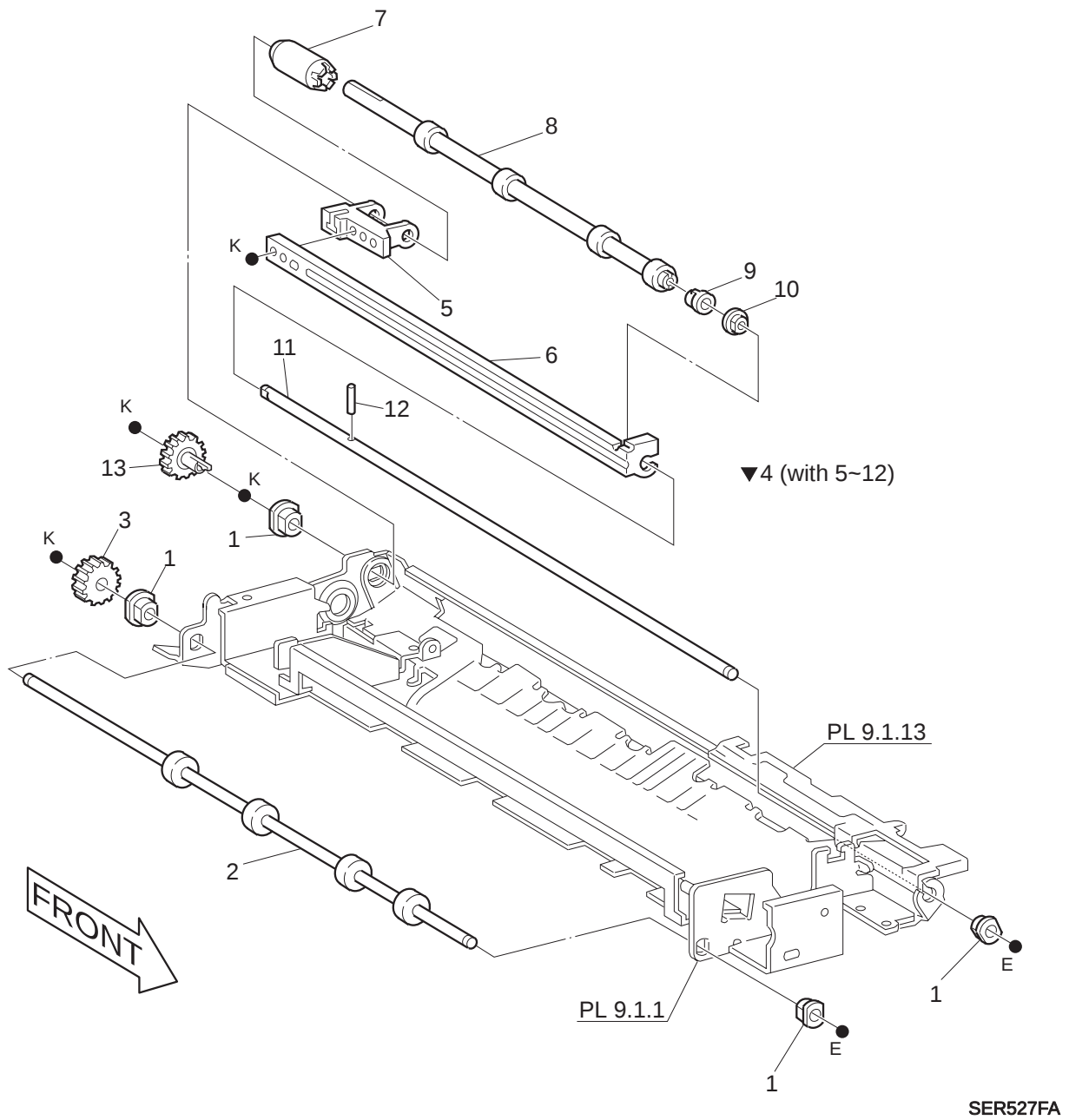
PL9.1 Exit Lower Chute



PL9.1 Exit Lower Chute

1. TRANSPORT ASSEMBLY FULL (with PL9.1, PL9.2, PL9.3, and PL9.4)	P/N 865022K46545
2. SOLENOID ASSEMBLY	P/N 865121K82870
3. LINK - SOLENOID	N/A
4. SPRING	N/A
5. OFFSET MOTOR	P/N 865127K18860
6. LOWER CHUTE ASSEMBLY (with 7 ~ 15)	P/N 865054K06201
7. PINCH ROLLER SPRING FRONT 1	N/A
8. PINCH ROLLER SPRING REAR 1	N/A
9. PINCH ROLLER SPRING FRONT 2	N/A
10. PINCH ROLLER FRONT	N/A
11. PINCH ROLLER REAR	N/A
12. FUSER EXIT SENSOR	P/N 865110K94631
13. LOWER CHUTE	N/A
14. ELIMINATOR	N/A
15. PINCH ROLL SPRING REAR 2	N/A
16. EXIT SENSOR	P/N 865110K98480
17. EXIT ACTUATOR	P/N 865120E99490
18. EXIT SENSOR SPRING	N/A
19. EXIT SENSOR BRACKET	N/A
20. BRACKET ASSEMBLY - FRONT	N/A
21. LOWER CHUTE - FACE UP	N/A
22. FRAME ASSEMBLY - REAR	N/A
23. EXIT HARNESS (J601 < > J109/J133/J210)	N/A

PL9.2 Offset Roller

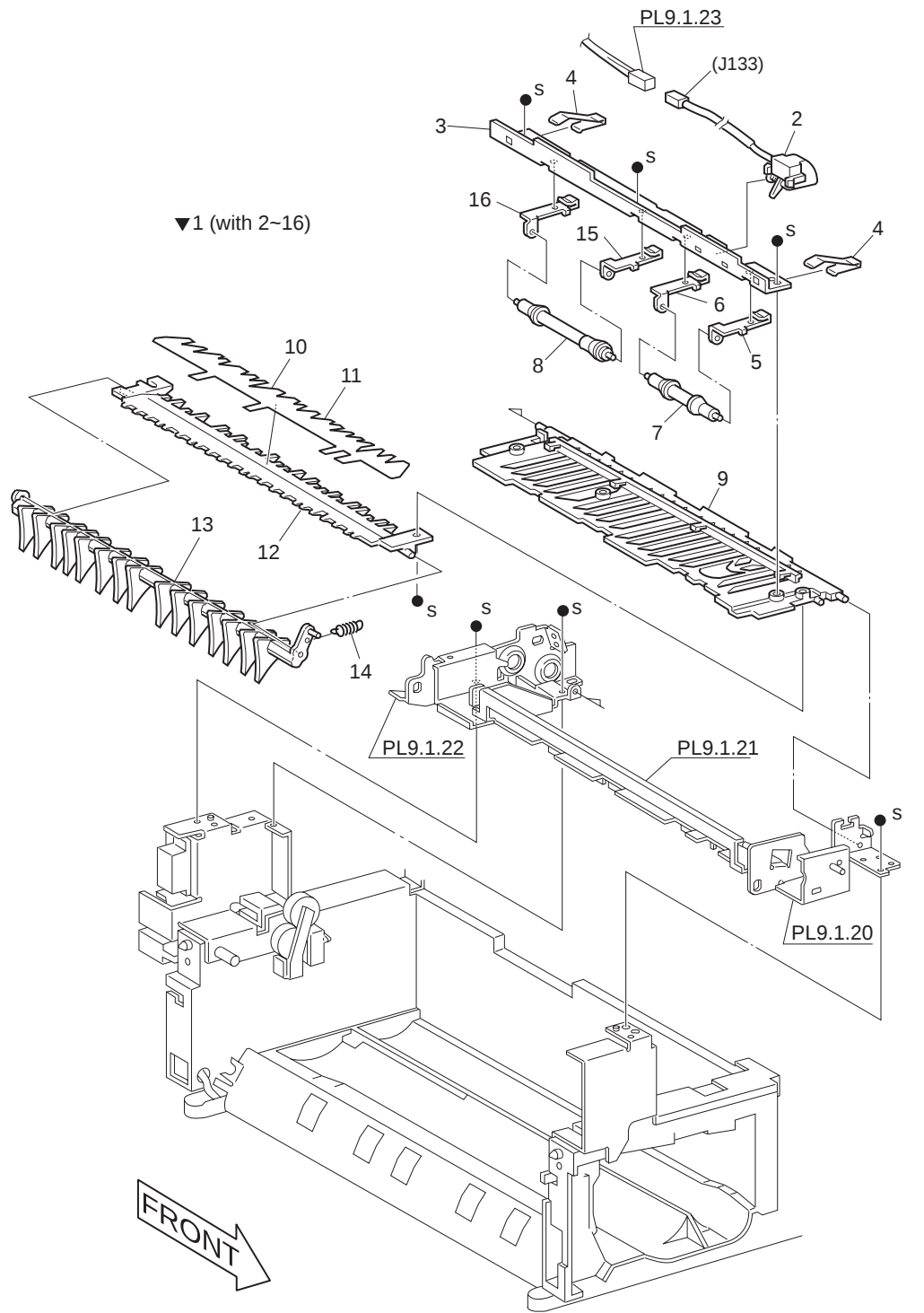


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PL9.2 Offset Roller

1. BEARING	
2. ROLLER ASSEMBLY - EXIT FUT	P/N 865022K35430
3. GEAR - 19 ASSEMBLY	N/A
4. OFFSET ROLLER ASSEMBLY (with 5 ~ 12)	P/N 865022K46031
5. OFFSET RACK.....	N/A
6. OFFSET BRACKET	N/A
7. OFFSET ROLLER SLEEVE	N/A
8. OFFSET ROLLER	N/A
9. OFFSET ROLLER BEARING REAR.....	N/A
10. OFFSET ROLLER BEARING FRONT	N/A
11. OFFSET SHAFT.....	N/A
12. OFFSET SHAFT PIN	N/A
13. GEAR - 19	N/A

PL9.3 Exit Upper Chute Assembly

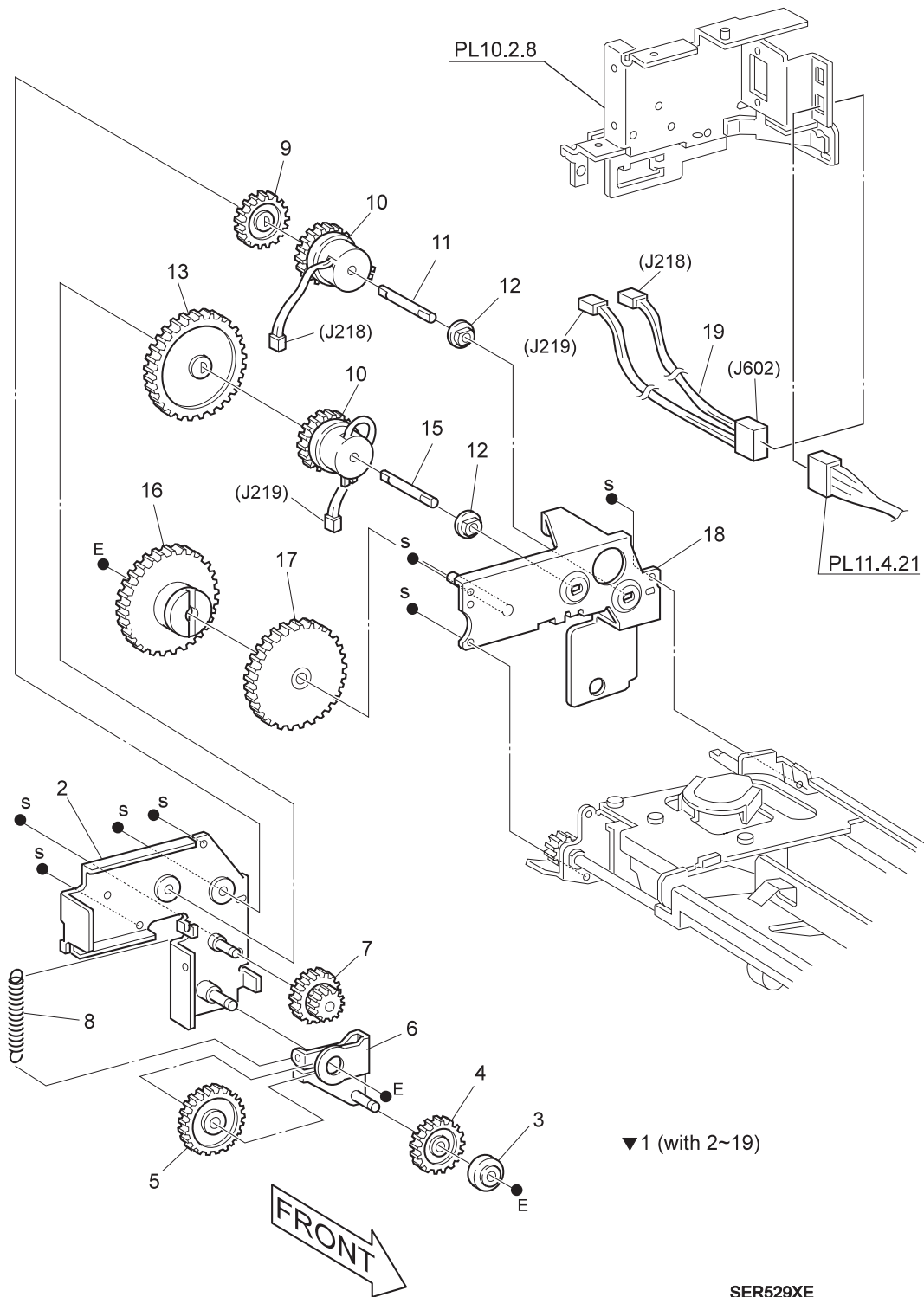


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PL9.3 Exit Upper Chute Assembly

1. CHUTE ASSEMBLY - UPPER (with 2 ~ 16)	P/N 865054K08502
2. SWITCH ASSEMBLY	P/N 865110K94651
3. PLATE - TIE	N/A
4. SPRING PLATE	N/A
5. SPRING ASSEMBLY - PINCH, H	N/A
6. SPRING ASSEMBLY - PINCH, I	N/A
7. PINCH ROLLER, FRONT	N/A
8. PINCH ROLLER, REAR	N/A
9. EXIT UPPER CHUTE	N/A
10. GUIDE PAPER	N/A
11. GUIDE PAPER	N/A
12. EXIT MIDDLE CHUTE	N/A
13. EXIT GATE	N/A
14. EXIT GATE SPRING	N/A
15. SPRING ASSEMBLY - PINCH, J	N/A
16. SPRING ASSEMBLY - PINCH, K	N/A

PL9.4 Exit Drive Assembly

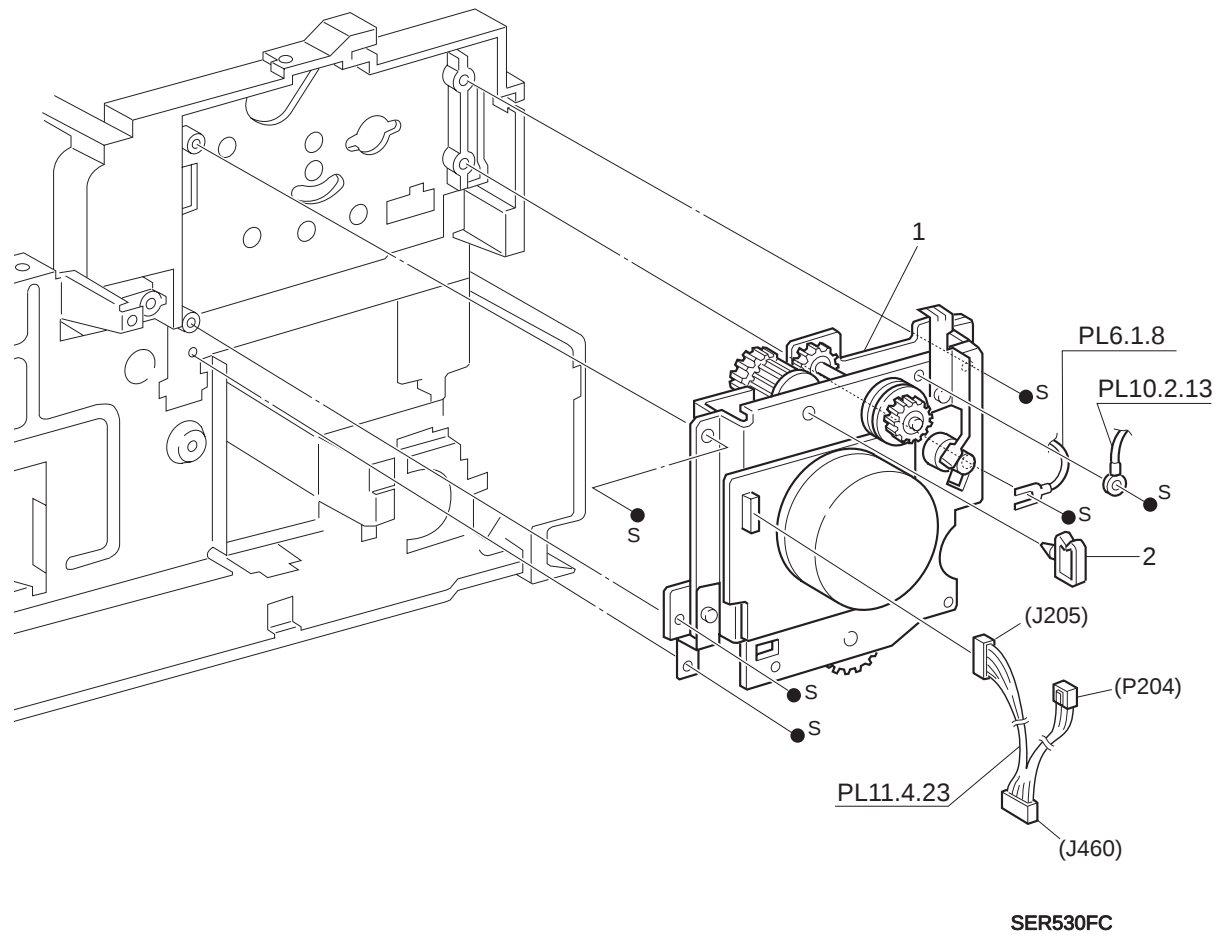


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PL9.4 Exit Drive Assembly

1. EXIT DRIVE ASSEMBLY (with 2 ~ 19)	P/N 865068K12271
2. EXIT DRIVE SUPPORT	N/A
3. EXIT DRIVE IDLER PULLEY	N/A
4. EXIT GEAR 1	N/A
5. EXIT GEAR 2	N/A
6. EXIT GEAR 2 BRACKET	N/A
7. EXIT IDLER GEAR	N/A
8. EXIT RATCHET SPRING	N/A
9. INVERTER CCW GEAR	N/A
10. INVERTER CLUTCH	P/N 865121K84520
11. INVERTER CCW SHAFT	N/A
12. BEARING	N/A
13. INVERTER CW GEAR	N/A
14. N/A	
15. INVERTER CW SHAFT	N/A
16. INVERTER EXIT GEAR REAR	N/A
17. INVERTER EXIT GEAR FRONT	N/A
18. INVERTER BRACKET	N/A
19. EXIT WIRE HARNESS (J602 < > J218/J219)	N/A

PL10.1 Main Drive Assembly

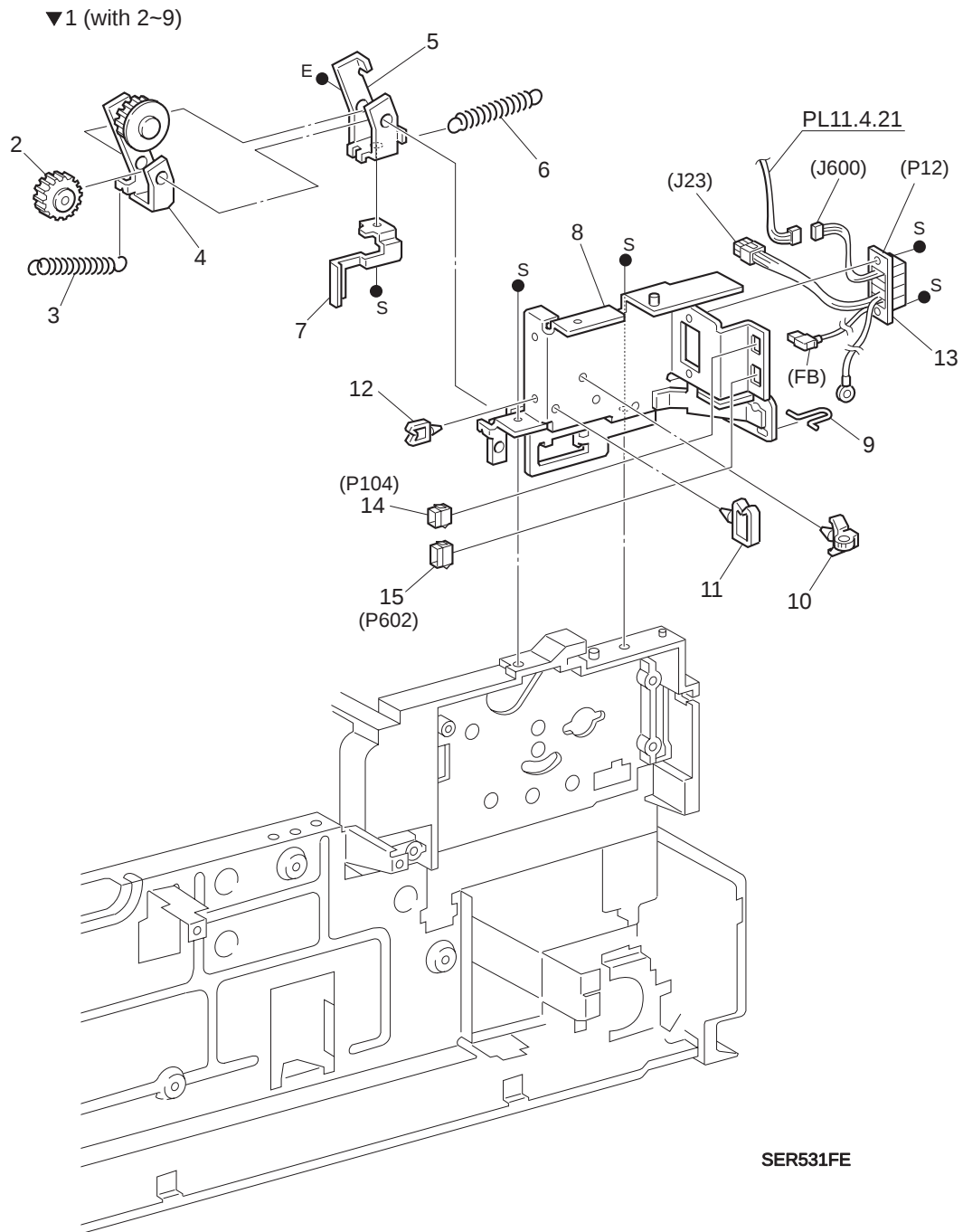


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PL10.1 Main Drive Assembly

- | | |
|------------------------------|------------------|
| 1. MAIN DRIVE ASSEMBLY | P/N 865007K83444 |
| 2. HARNESS CLAMP | N/A |

PL10.2 Fuser Drive Assembly

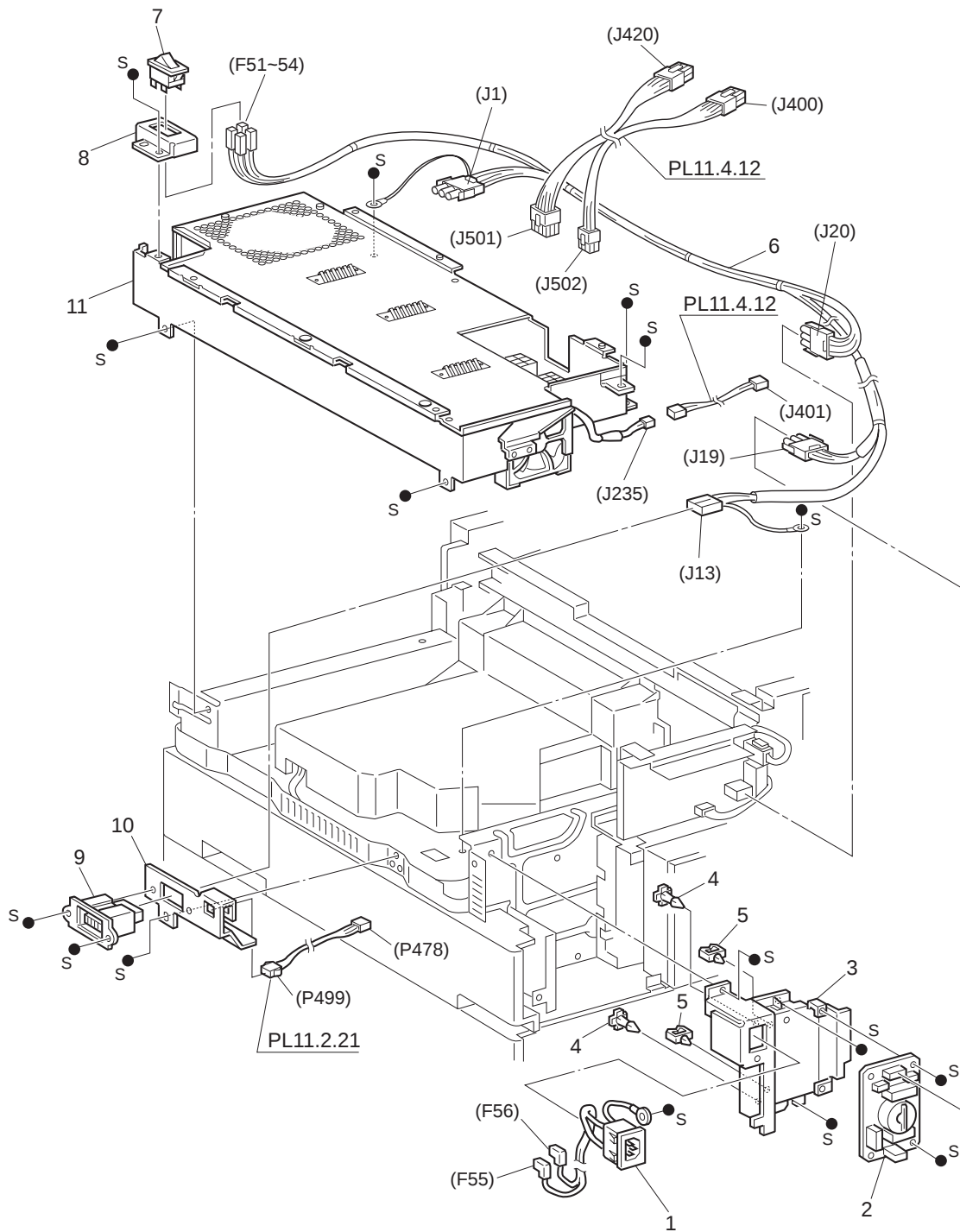


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PL10.2 Fuser Drive Assembly

1. FRAME ASSEMBLY EXIT REAR (with 2 ~ 9).....	P/N 865068K11604
2. GEAR 22T.....	N/A
3. SPRING.....	N/A
4. BRACKET ASSEMBLY.....	N/A
5. BRACKET.....	N/A
6. SPRING - EXIT.....	N/A
7. BRACKET.....	N/A
8. FRAME ASSEMBLY - EXIT, REAR.....	N/A
9. STOPPER HOOK.....	N/A
10. HARNESS CLAMP 1.....	N/A
11. HARNESS CLAMP 2.....	N/A
12. HARNESS CLAMP 3.....	N/A
13. DRAWER CONNECTOR (P12 < > J23/J600).....	P/N 865162K25053
14. CONNECTOR P104.....	N/A
15. CONNECTOR P602.....	N/A

PL11.1 Power Inlet and LVPS



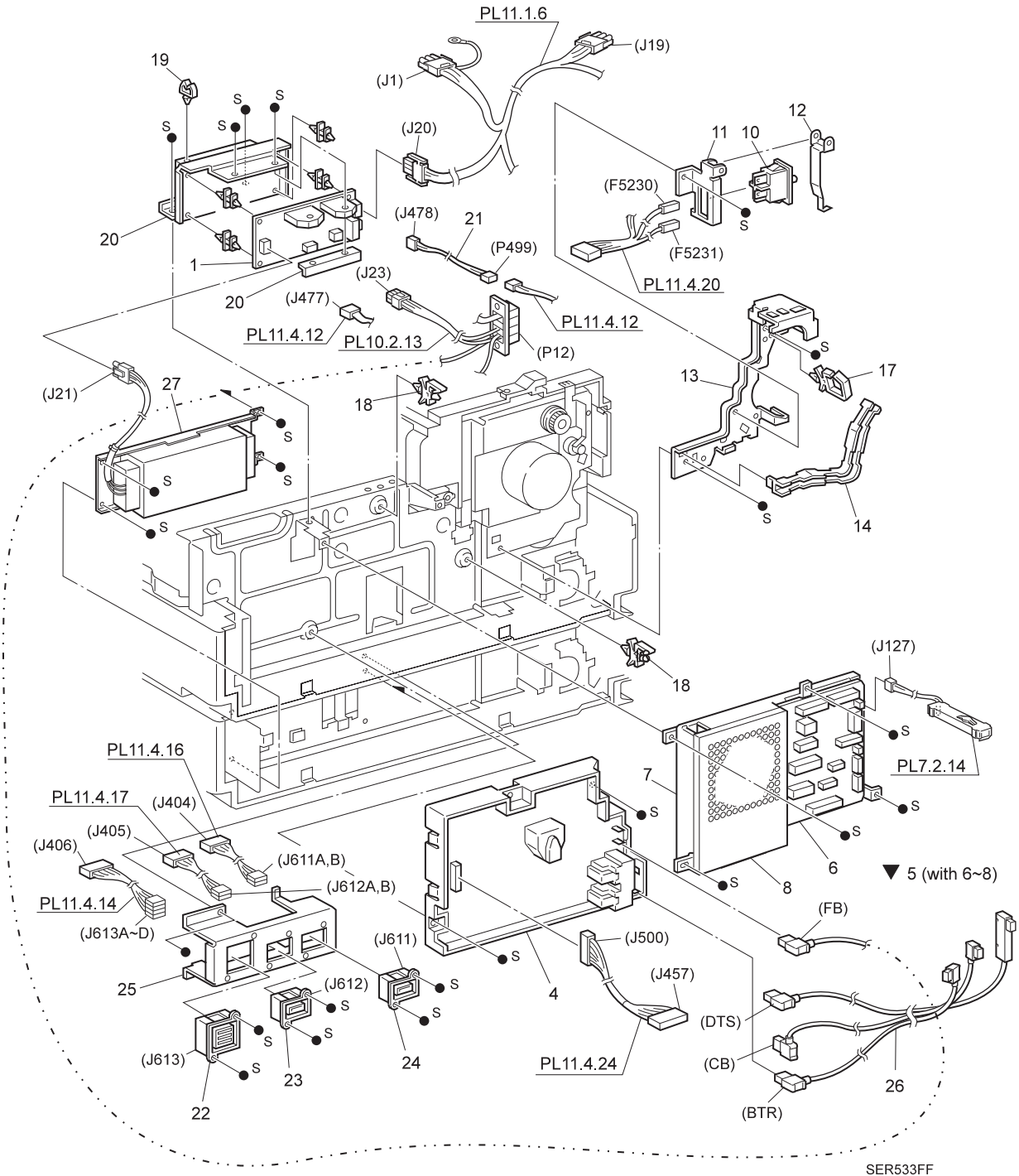
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PL11.1 Power Inlet and LVPS

1. POWER INLET CONNECTOR	N/A
2. NOISE FILTER PWB 120.....	P/N 865160K35141
- NOISE FILTER PWB 220.....	P/N 865160K35151
3. BRACKET - N/F	N/A
4. PWB STUD	N/A
5. HARNESS CLAMP	N/A
6. MAIN POWER HARNESS (F51~F54 / J1 <> J13/J19/J20)	N/A
7. MAIN SWITCH	P/N 865910W00202
8. BRACKET ASSEMBLY SWITCH	N/A
9. OUTLET.....	N/A
10. BRACKET FINISHER.....	N/A
11. PS ASSEMBLY -M4 120V	P/N 865105K94942
- PS ASSEMBLY -M4 220V	P/N 865105K94952

PL11.2 HVPS and MCU PWB

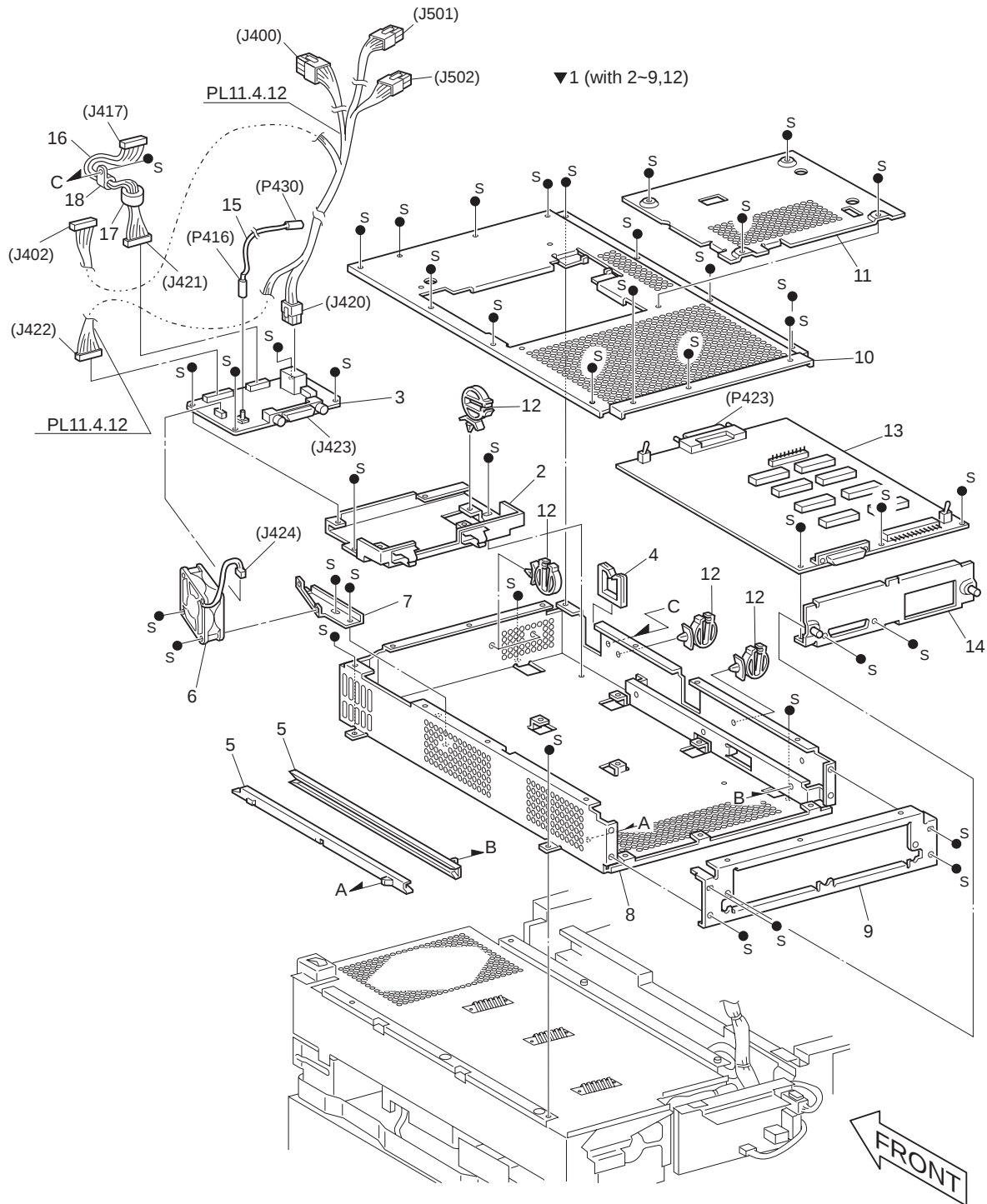


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PL11.2 HVPS and MCU PWB

1. AC DRIVER PWB 120	P/N 865160K47100
2. N/A	
3. N/A	
4. HVPS	P/N 865105K14540
5. MCU ASSEMBLY (with 6 ~ 8) 100/120V	P/N 865101K31042
MCU ASSEMBLY 220V	P/N 865101K31052
6. MCU PWB	N/A
7. BRACKET MCU	N/A
8. COVER MCU	N/A
9. N/A	
10. LEFT COVER INTERLOCK SWITCH	P/N 865110E93460
11. INTERLOCK SWITCH BRACKET	N/A
12. INTERLOCK SWITCH LEVER	N/A
13. SUPPORT HARNESS	N/A
14. HARNESS CHANNEL	N/A
15. N/A	
16. N/A	
17. HARNESS CLAMP 2	N/A
18. PWB SUPPORT	N/A
19. HARNESS CLAMP 4	N/A
20. BRACKET AC - DRIVE	N/A
21. AC DRIVE HARNESS (J478 < > P499)	N/A
22. HCF CONNECTOR	N/A
23. DUPLEX UNIT CONNECTOR	N/A
24. MAIL BOX CONNECTOR	N/A
25. OPTION CONNECTOR BRACKET	N/A
26. HARNESS - ASSEMBLY, EXIT	N/A
27. TRANSFORMER 220V	N/A

PL11.3 ESS Assembly



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PL11.3 ESS Assembly

1. ESS ASSEMBLY - (with 2 ~ 9, and 12)	P/N 865160K34445
2. BRACKET ASSEMBLY - PWB MOTHER	N/A
3. ESS MOTHER PWB	P/N 865160K29520
4. BUSH SADDLE	N/A
5. GUIDE	N/A
6. FAN ASSEMBLY	P/N 865127K20030
7. BRACKET - FAN	N/A
8. BOX ASSEMBLY - ESS	N/A
9. PANEL - REAR	N/A
10. COVER - ESS	N/A
11. COVER - SIMM	N/A
12. CLAMP (4)	N/A
13. MINOLTA-QMS Video Controller	P/N 2293250-901
14. ESS DRAWER PANEL	N/A
15. HARNESS ASSEMBLY ROS V (P416 < > P430)	N/A
16. HARNESS ASSEMBLY CONSOLE	P/N 865162K25110
17. CORE	N/A
18. CLAMP+	N/A



3260/4032 Print System - Base Engine Technical Manual

PL11.4 Harness

1. N/A
2. N/A
3. N/A
4. N/A
5. N/A
6. N/A
7. N/A
8. N/A
9. N/A
10. N/A
11. N/A
12. HARNESS ASSEMBLY - DC MAIN
(LVPS: J400/J420<>J501/J502, FUSER; J401<>J477/P235,
ESS MOTOR; J402<>J422, ROS; J456<>J106/J207/P234/J407,
TEST; J478<>P499)P/N 865162K25043
13. HARNESS ASSEMBLY -
OEM ITM REAR (J408<>J140/J141/J142/P607/P240/J241)P/N 865162K22120
14. HARNESS ASSEMBLY - I/F, TRAY (J406<>J613A/B/C/D)P/N 865162K25070
15. HARNESS ASSEMBLY - BOTTOM (J403<> J101/J203/J603)P/N 865162K20370
16. HARNESS ASSEMBLY - I/F, DUPLEX (J404<>J611A/B).....P/N 865162K30741
17. HARNESS ASSEMBLY - I/F, OUTPUT (J405<>J612A/B).....P/N 865162K25060
18. HARNESS ASSEMBLY -
REGISTRATION SENSOR (J459<>J100/J102/J103).....P/N 865152K66130
19. HARNESS ASSEMBLY - SIZE, EXIT (J461<>J105).....P/N 865162K20350
20. HARNESS ASSEMBLY -
INTERLOCK SWITCH (J458<>J232/J233/F5230/F5231).....P/N 865162K25290
21. HARNESS ASSEMBLY - DC REAR, EXIT
(J462<>P104/P200/P201/P202/P209/P600/P601/P602)P/N 865162K20360
22. N/A
23. HARNESS ASSEMBLY - MAIN MOTOR (J460<>P204/J205)P/N 865162K25540
24. HARNESS ASSEMBLY - HVPS (J457<>J500)P/N 865162K25520

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Section 13 - Principles of Operation**Contents**

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1- Printer Power

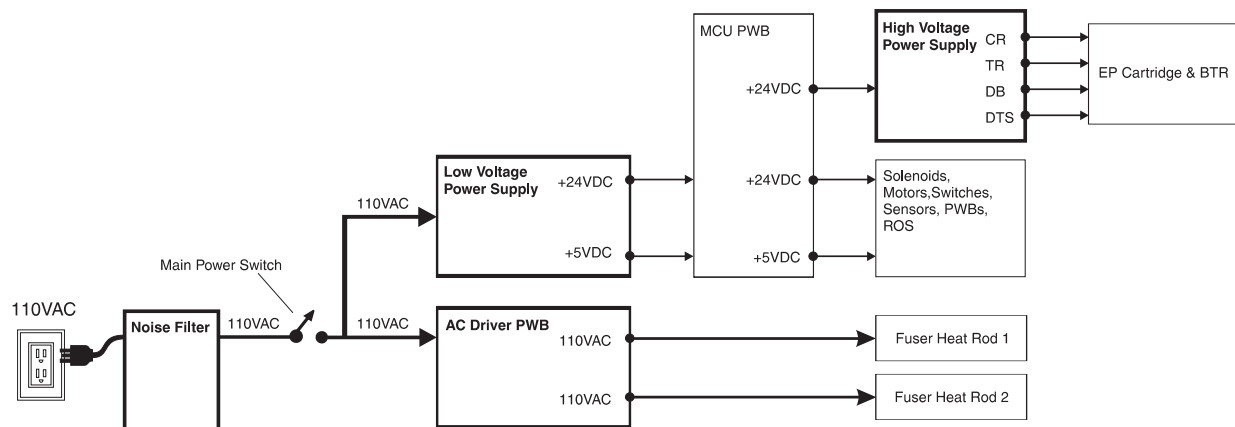
The power supplies in 3260/4032 provide the voltages that the printer requires to operate. The various printer functions require 110VAC, +5VDC, +24VDC, and several high voltage DC and AC values that are used by xerographics.

The printer AC power cord plugs into a grounded AC wall outlet. The cord carries AC line voltage to the **Noise Filter PWB**. The Noise Filter smooths the AC voltage and sends it to the Main Power Switch. Switching on the Main Power Switch applies AC voltage to the AC Driver PWB and to the Low Voltage Power Supply (LVPS) PWB.

The **AC Driver PWB** is the interface between printer control (MCU) and the Fuser. Fuser sensors connected to the AC Driver PWB send Fuser status information to the Driver PWB, which the PWB routes to the MCU PWB. The MCU processes the information and sends commands back to the AC Driver PWB to tell the AC Driver whether or not to switch on the Fuser Heat Rods.

The **Low Voltage Power Supply PWB**, or LVPS, converts the 110VAC to regulated +24VDC and +5VDC voltages. The LVPS sends these voltages to the MCU PWB. The MCU uses the voltages for internal processing and for printer component operation. The MCU also sends +24VDC to the High Voltage Power Supply PWB.

The **High Voltage Power Supply PWB**, or HVPS, converts the +24VDC received from the MCU PWB to the high voltages that are required by the xerographic system of the printer. The HVPS produces the Charge (CR), Transfer (TR), Developer Bias (DB), and Detack (DTS) voltages, and sends them on to the EP Cartridge and to the Bias Transfer Roll (BTR).



SR1301XA

Power Supply Components

The 3260/4032 Power Supply is made up of five main components and a number of subcomponents.

1. Noise Filter PWB

Smooths and removes any fluctuation or hum from the AC line voltage.

Main Power Switch: Used to switch AC voltage on and off (switches the printer on and off).

2. AC Driver PWB

Receives smoothed AC voltage from the Noise Filter. The AC Driver PWB receives Fuser temperature information from Fuser sensors and passes that information on to the MCU for processing. The MCU PWB commands the AC Driver to switch on or switch off AC voltage to the Fuser Heat Rods.

3. Low Voltage Power Supply (LVPS)

Takes filtered AC voltage and converts it into regulated +24VDC and +5VDC.

The LVPS contains **overcurrent protection circuits**. If an excessive current begins to flow through any of the components supplied by the LVPS, the LVPS immediately shuts down all low voltage output. To reset the LVPS after an overcurrent shutdown; switch off the printer, wait a few minutes, then switch on the printer.

The LVPS contains **open circuit protection circuits**. If the LVPS detects that a circuit is open for longer than one minute, the LVPS slowly decreases the LVPS output until the output is zero. To reset the LVPS after an open circuit shutdown; switch off the printer, wait a few minutes, then switch on the printer.

The LVPS contains a low +24VDC output protection circuit. If the LVPS detects the +24VDC output dropping below +15VDC, the LVPS slowly decreases the +24VDC LVPS output until the output is zero.

LVPS Fan: A +24VDC fan that cools the LVPS PWB.

4. Machine Control Unit (MCU PWB)

Takes the +24VDC and +5VDC generated by the LVPS and distributes them to the various components throughout the printer, including +24VDC to the High Voltage Power Supply (HVPS).

Interlock Switches SW1 and SW2: Used as a safety measure. The main interlock circuit for 3260/4032 is actually two separated switches wired in series with the MCU PWB. When the EP Cartridge is in place, Interlock Switch SW1 is closed. When the Left Front Cover is closed, Interlock Switch SW2 is closed. With both switches closed, the circuit is complete and the MCU PWB sends +24VDC to the HVPS and other printer components. If either SW1 is open (the EP Cartridge removed) or SW2 is open (the Left Front Cover is open) the MCU PWB cuts all +24VDC output from the MCU PWB.

Even though the interlock switches cut the +24VDC output from the MCU PWB, +24VDC output from the LVPS is still present throughout the printer as well as 110VAC line voltage along the AC paths in the printer.

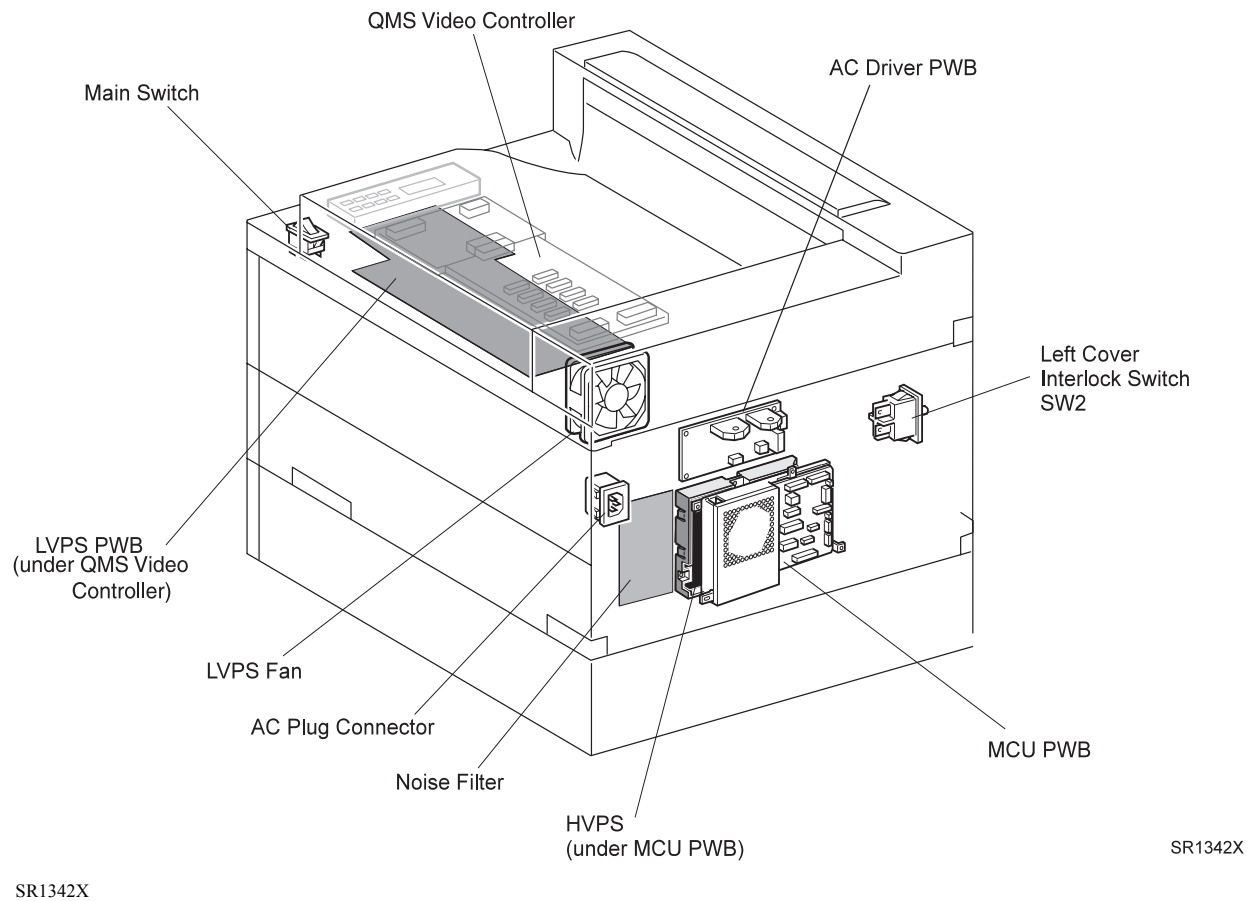


High Voltage Power Supply (HVPS)

Takes the +24VDC received from the MCU PWB and converts it to the high voltages that are required by the printer xerographic components.

The HVPS contains overcurrent protection circuits. If an excessive current begins to flow through any of the xerographic components, the HVPS immediately shuts down all high voltage output. To reset the HVPS after an overcurrent shutdown; switch off the printer, wait a few minutes, then switch on the printer.

Power Supply Components



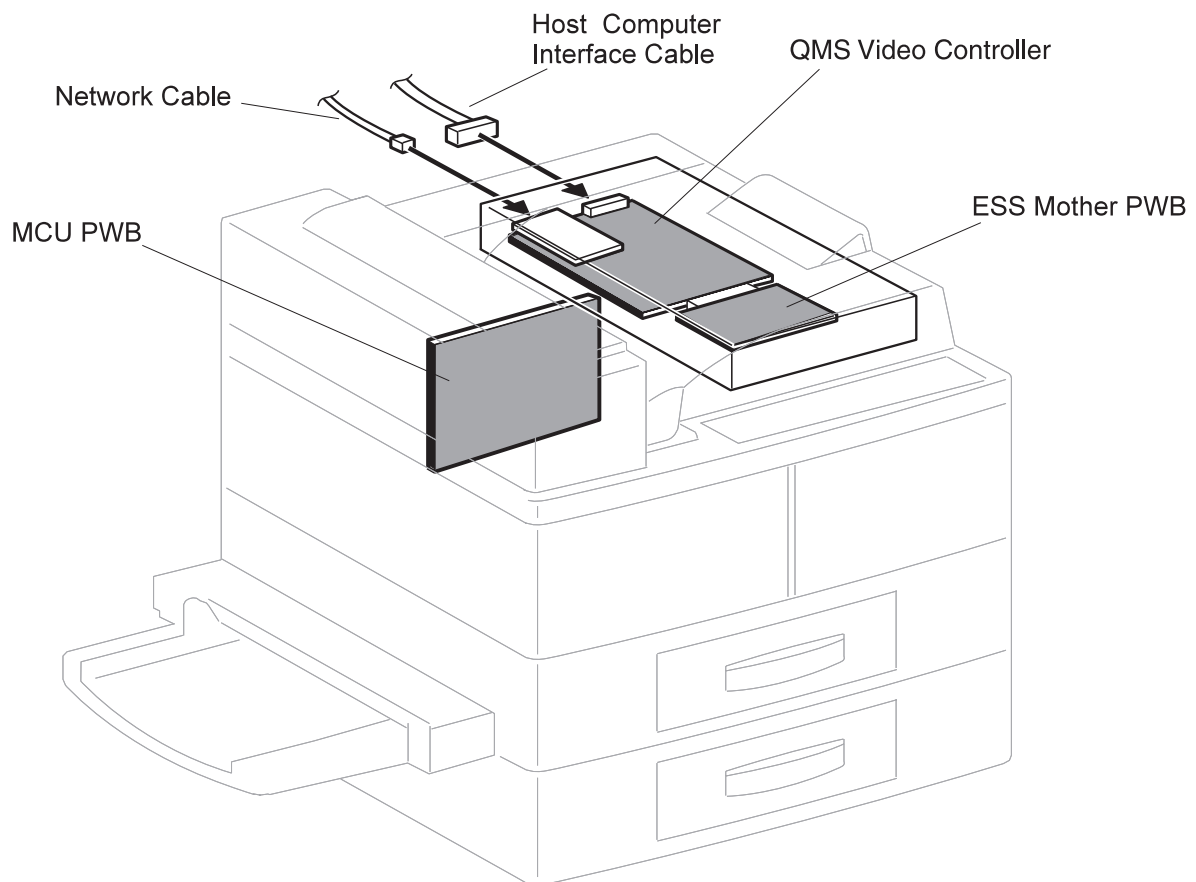
2- Printer Control

Printer Control is a broad term that is used to describe the printer resources that monitor and control the actions and operations of the 3260/4032 printer; from warm-up, through the print cycle, to machine error detection.

The center of printer control for the 3260/4032 base engine is the Machine Control Unit PWB, or MCU PWB. The MCU contains an 8 bit microcomputer. The MCU contains ASICs (Application Specific Integrated Circuits) for image data transfer and communication control, ROM, RAM, a 16 bit integrated timer, programmable timing pattern control, a watch dog timer, serial communications interfaces, an A/D converter, a D/A converter, I/O ports, and a DMA controller.

The MCU PWB provides the logic and information processing that is necessary for the printer to function. Every electrical component within the printer is connected either directly or indirectly to the MCU PWB. Sensors in the printer send printer status information to the MCU. The MCU processes that information and compares it to timing tables that are stored in onboard ROM. Acting on the results of the processing, the MCU sends commands to various printer components; switching on motors, switching off voltages, signaling statuses. Non-Volatile RAM on the MCU PWB stores adjustable operation parameters, such as Fuser temperature and laser strength, that are used as reference during printer operation.

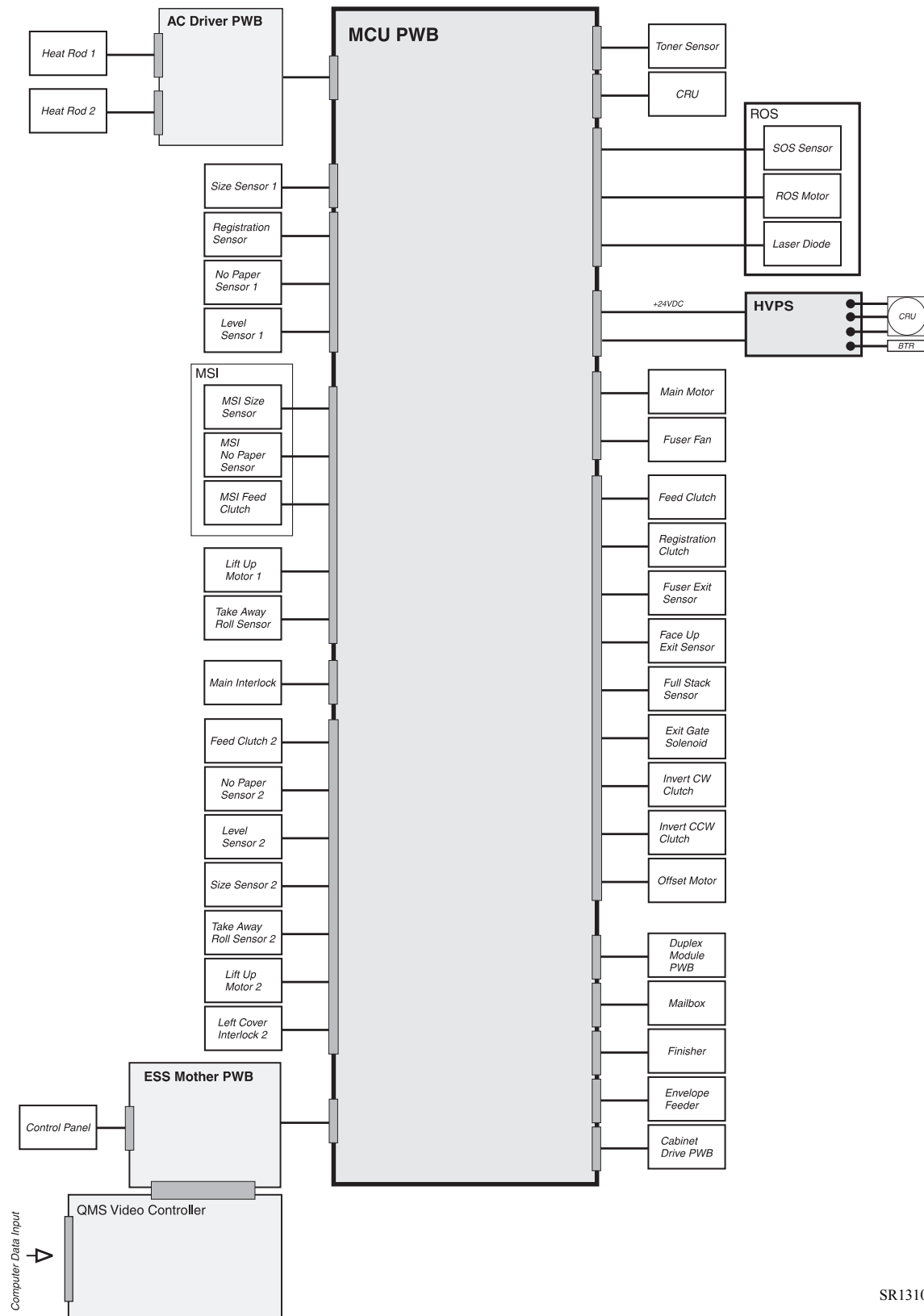
The ESS Mother PWB is connected to the MCU PWB. The Video Controller is connected to the ESS Mother PWB, so the Video Controller is **indirectly** connected to the MCU PWB. Video data travels from the Video Controller, through the ESS Mother PWB to the Laser Diode PWB.



SR1343X

SR1343X

3260/4032 Printer Control



SR1310XA

Printer Control Components

The 3260/4032 Printer Control is made up of the MCU PWB and numerous connected components.

Machine Control Unit PWB (MCU PWB)

Receives status and command information from sensors and from the Video Controller. Controls most printer operations. The MCU PWB performs nine major functions:

- 1- Communicates with the Printer Controller (ESS).
- 2- Maintains the system clock.
- 3- Controls the printing process.
- 4- Controls the ROS, the Fuser, and the drive assemblies.
- 5- Distributes +5VDC and +24VDC to various printer components.
- 6- Monitors printer status.
- 7- Maintains a running print count.
- 8- Maintains NVRAM settings.
- 9- Controls printer options.

Components attached to or associated with the MCU PWB:

1. Low Voltage Power Supply

Converts 110VAC to +5VDC and +24VDC.

2. Video Controller

Connected to the MCU PWB through the ESS Mother PWB. The interface between the print engine and the host computer. The ESS processes the raw video data sent by the host computer.

3. ESS Mother PWB

Connected to the Video Controller, to the MCU PWB, and to the Control Panel. The ESS Mother PWB receives video data from the Video Controller and sends it on to the ROS Laser Diode.

4. Control Panel

Connected to the ESS Mother PWB, the Control Panel displays status information sent from the MCU PWB and Video Controller.

5. AC Driver PWB

Switches 110VAC to the two Fuser Heat Rods. Fuser temperature sensors are connected to the AC Drive PWB. The AC Drive PWB sends the temperature information to the MCU PWB.

6. High Voltage Power Supply

Converts +24VDC received from the MCU PWB to several high voltages that are required by printer xerographics.

7. Toner Sensor

Magnetic sensor that monitors the CRU toner level.

8. CRU

Drum usage information that is stored in the CRU.

9. ROS

The SOS (Start of Scan) Sensor, the ROS Motor, and the Laser Diode.

10. Main Motor

Provides most of the mechanical drive for the printer.

11. Fuser Fan

Cools the Fuser area.

12. Feed Clutch

Transmits Main Motor drive to the Tray 1 Feed Rolls.

13. Registration Gate Clutch

Transmits Main Motor drive to the Registration Rolls.

14. Fuser Exit Sensor

Monitors paper travel out of the Fuser.

15. Face Up Exit Sensor

Monitors paper travel out of the Offset Unit.

16. Full Stack Sensor

Monitors the paper level in the Output Tray.

17. Exit Gate Solenoid

Toggles the Exit Gate.

18. Inverter CW Clutch

Transmits Main Motor drive, forward, to the Offset Rolls.

19. Inverter CCW Clutch

Transmits Main Motor drive, reverse, to the Offset Rolls.

20. Offset Motor

Provides mechanical drive for the Offset Unit.

21. Duplex Module PWB

Provides +5VDC, +24VDC, and command and status lines to the Duplex PWB option.

22. Mailbox

Provides +5VDC, +24VDC, and command and status lines to the Mailbox option.

23. Finisher

Provides +5VDC, +24VDC, and command and status lines to the Finisher option.

24. Envelope Feeder

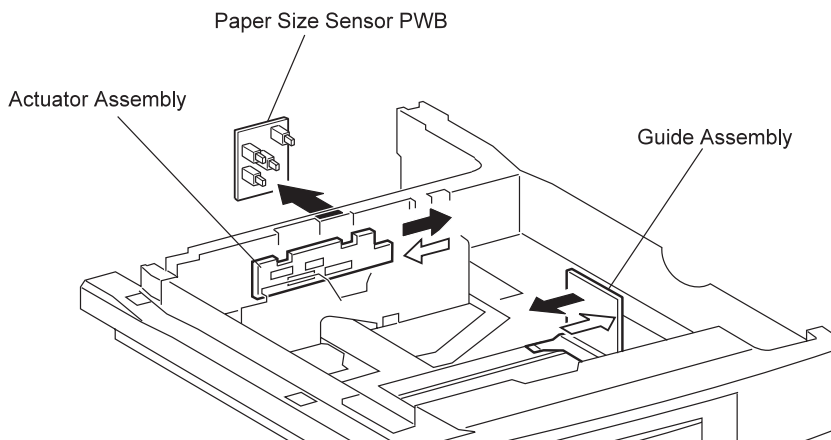
Provides +5VDC, +24VDC, and command and status lines to the Envelope Feeder option.

25. Cabinet Drive PWB

Provides +5VDC, +24VDC, and command and status lines to the High Capacity Feeder option.

26. Size Sensor 1

Monitors the size of the paper that is loaded in Feeder 1. The Actuator Assembly located at the rear of the Paper Tray has series of cams that face the Size Sensor PWB. Pushing the Paper Guide against the paper stack slides the Actuator Assembly along a track. When the Tray is inserted into the Feeder, the cams on the Actuator press the switches on the Size Sensor PWB in a pattern that is unique to the position of the Paper Guide. The MCU PWB interprets this pattern as a specific paper size.



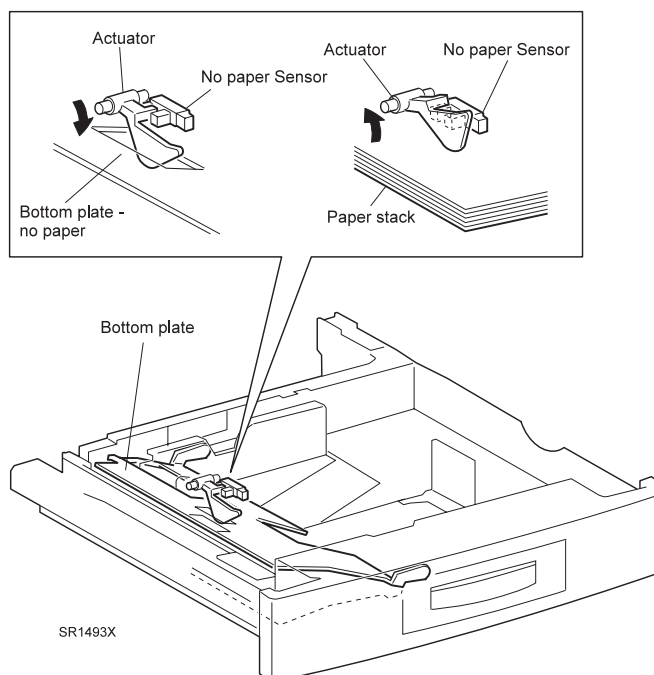
SER717F

27. Registration Sensor

Monitors paper travel out of the paper tray.

28. No Paper Sensor 1

Monitors the paper level in Feeder 1. When the Lift Motor raise the Bottom Plate, the Plate raises the paper stack, the stack pushes the No Paper Actuator up and away from the No Paper Sensor. The Sensor sends a *paper present* signal to the MCU PWB. When the last sheet of paper is fed out of the Paper Tray, the No Paper Actuator drops through a cutout in the Bottom Plate. The Actuator then blocks the Sensor, and the Sensor sends a no paper signal to the MCU PWB.

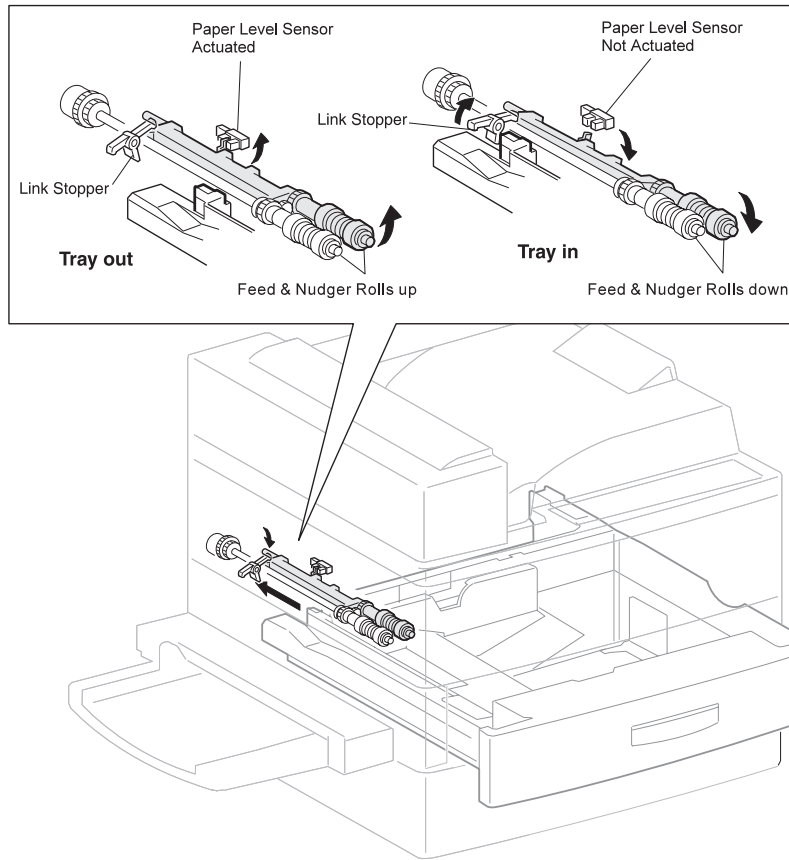


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29. Level 1 Sensor

Monitors whether or not Tray 1 is installed. Installing the Tray pushes the Link Stopper out, which in turn lowers the Feed Roll and moves the Level 1 Sensor Actuator tab away from the Sensor window.



SR1495X

30. MSI Size Sensor

Monitors the size of paper that is loaded in the MSI.

31. MSI No Paper Sensor

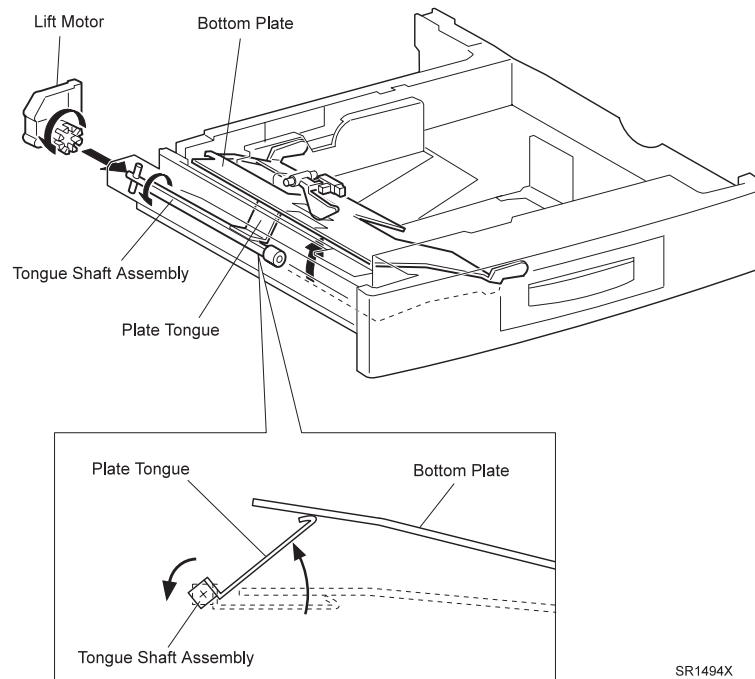
Monitors the paper level in the MSI.

32. MSI Feed Clutch

Transmits Main Motor drive to the MSI Feed Rolls.

33. Lift Up Motor 1

Raises the paper tray in Feeder 1. The MCU PWB switches on the Lift Motor. The Motor rotates a square, metal shaft that is located inside the Paper Tray. The Shaft raises the Tongue, which in turn raises the Bottom Plate, and the paper stack, up to the Feed Rolls.



SR1494X

SR1494X

34. Take Away Roll Sensor

Monitors the paper travel at the Take Away Roll.

35. Interlock Switches 1 and 2

Monitors the CRU position Switch 1 and Left Cover Interlock Switch 2 on Feeder 1.

36. Feed Clutch 2

Transmits Main Motor drive to the Tray 2 Feed Rolls.

37. No Paper Sensor 2

Monitors the paper level in Feeder 2. Functions identical to No Paper Sensor 1.

38. Level 2 Sensor

Monitors whether or not Tray 2 is installed.

39. Size Sensor 2

Monitors the size of the paper that is loaded in Feeder 2.

40. Take Away Roll Sensor 2

Monitors the paper travel at the Take Away Roll 2.

41. Lift Up Motor 2

Raises the paper tray in Feeder 2.

42. Left Cover Interlock 2

Monitors the Left Cover Interlock Switch on Feeder 2.

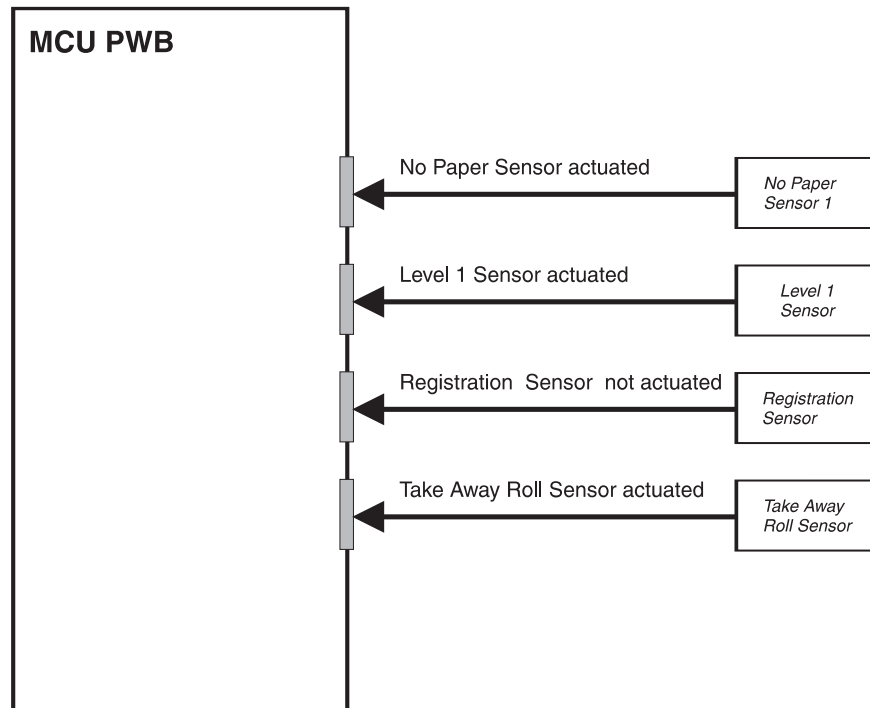
Function of the MCU during printer control

1. Input from sensors

Sensors tell the MCU what is going on within the printer and what is happening to the sheet of paper during a print cycle.

Example below:

Printer sensors send their status to the MCU PWB. The sensor status signals tell the MCU whether they are actuated or not actuated (on or off, high or low). If measured with a voltmeter, some sensor signals to the MCU would be +5VDC when on and 0VDC when off, while other sensors may be 0VDC when on and +5VDC when off. This high/low decision is determined when the printer is designed.



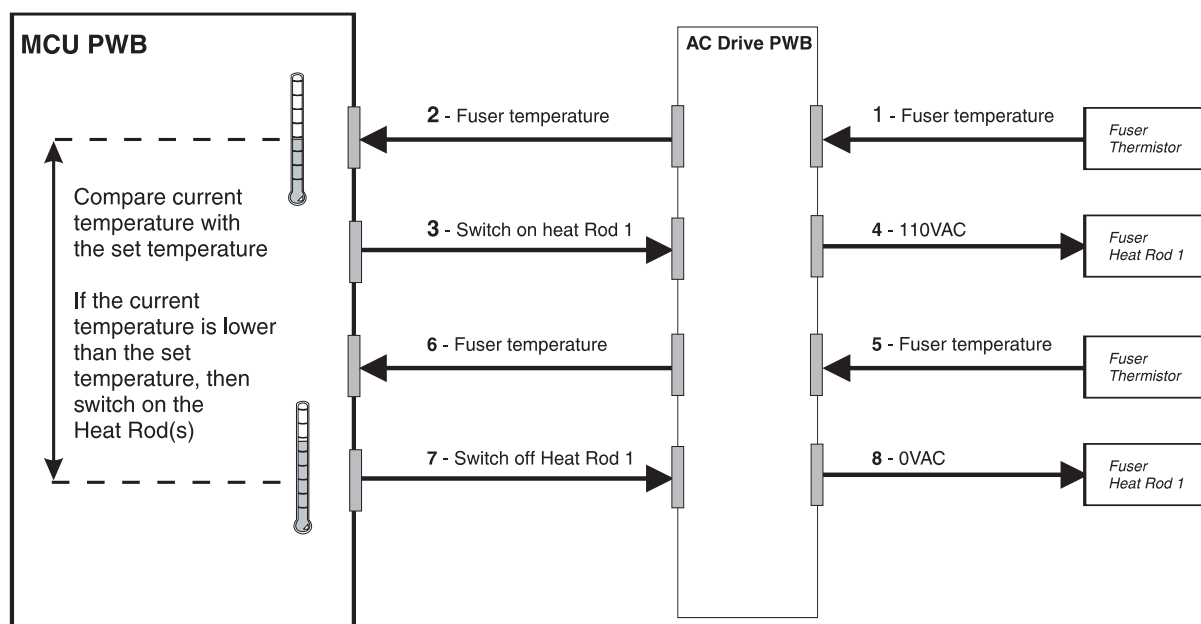
SR1311X

2. Processing input information

Logic on the MCU compares the input information with the timing and reference values that are stored in ROM and NVRAM on the PWB.

Example below:

The Fuser Thermistor monitors the temperature of the Fuser Heat Roll and sends the current temperature value to the AC Drive PWB. The AC Drive PWB relays the temperature data to the MCU PWB. The MCU compares the current temperature with the set (or expected) temperature that is stored in NVRAM on the MCU PWB. If the current temperature is lower than the set temperature, the MCU sends a signal to the AC Drive PWB to switch on the Fuser Heat Rod until the current temperature reaches the set temperature.



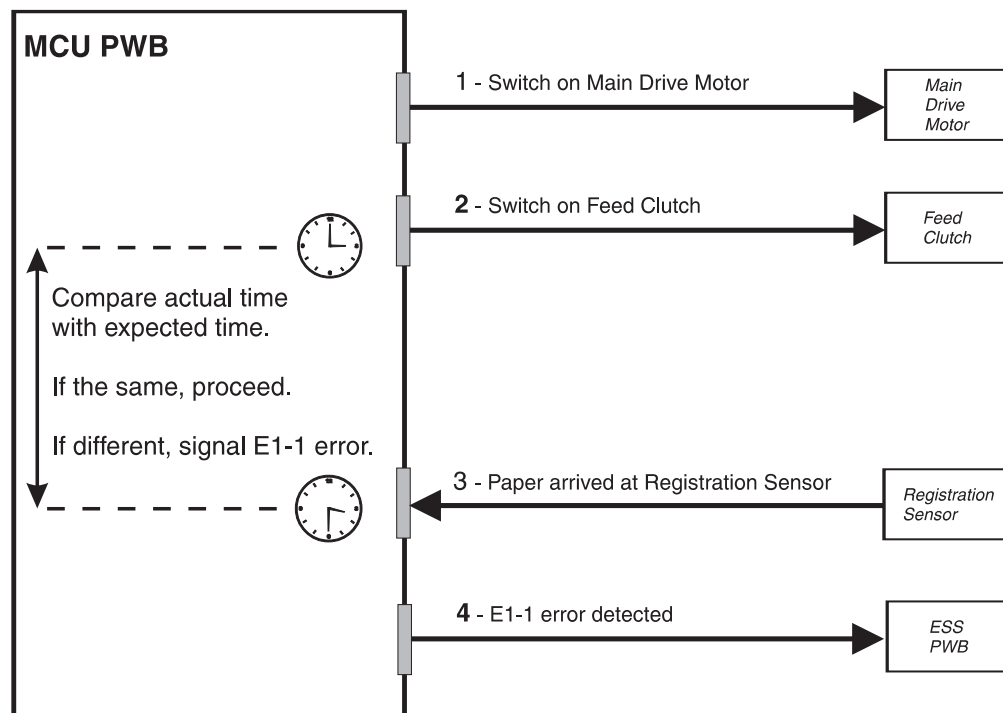
SR1312X

3. Output to motors, solenoids, and other components.

After comparing input values with timing and reference values, the MCU makes a decision on the current status of the printer, and responds appropriately. The MCU may switch on or off motors, solenoids, or other components. The MCU may also signal that an error occurred. (There is a table of 3260/4032 Print System Error Codes located at the end of this section 2 - *Printer Control*).

Example below:

A the start of a print cycle, the MCU switches on the Main Drive Motor, and then the Feed Clutch. The MCU uses the Feed Clutch actuation as a timing marker. The Feed Rolls attached to the Feed Clutch drive a sheet of paper out of the paper tray and down the paper path. As the sheet of paper travels down the paper path it strikes the Registration Sensor. The Sensor sends a signal to the MCU PWB telling it that the paper has arrived. The MCU takes the elapsed time from when it actuated the Feed Clutch to the time it received the signal from the Registration Sensor and compares that time with the set time (or expected time) that is stored in ROM on the MCU PWB. If the time elapsed is within range, the print cycle continues. If the time elapsed is slower than the set time or if there was no signal from the Registration Sensor within the set time, the MCU interprets that as an error and sends an E1-1 Misfeed Jam status to the Video Controller.



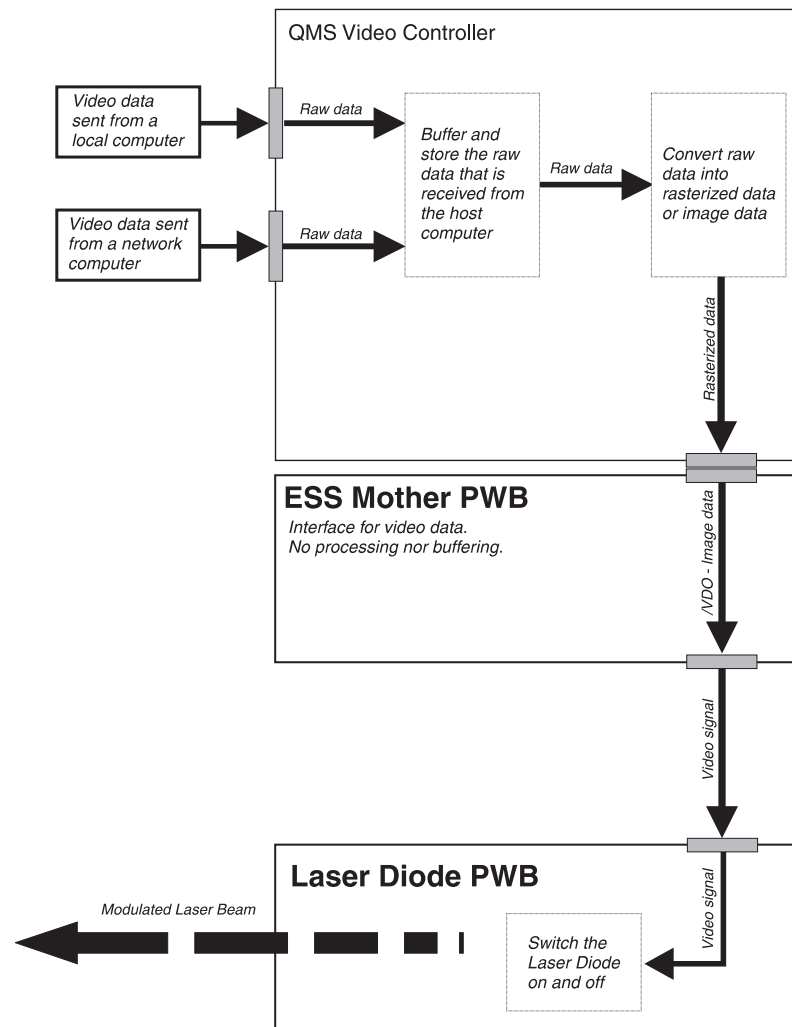
SR1313X

4. Processing image data

Although the MCU PWB does control and monitor the operation of the ROS, the actual video data sent by a host computer bypasses the MCU PWB on its way to the Laser Diode PWB.

Example below:

Video data originating from either a local computer or a network computer enters the printer through the ports in the Video Controller. The Video Controller stores and buffers the **raw data** and then converts it to **rasterized data** that controls the Laser Diode. The rasterized data leaves the Video Controller and enters the ESS Mother PWB. The ESS Mother PWB is an interface for the data. The ESS Mother PWB does not buffer nor process the data, it simply passes it along as a **video signal** to the Laser Diode PWB. The video signal switches the Laser Diode on and off according to the image information sent in the raw data.



SR1344X

3260/4032 Print System Error Code Table

This table lists all of the printer Error Codes that the 3260/4032 MCU can generate. The Error Codes are listed by displayed priority, starting with the highest priority code. If multiple errors should occur, the printer displays the code with the highest priority. Actual messages displayed on the printer Control Panel may vary somewhat from the text shown in the *Display Message* column.

Error Code and Displayed Message	Meaning of, or possible reason for the Error Code	Printer response to the error ----- Methods to clear the Error Code
U1-1: MAIN MOTOR FAIL PWR OFF THEN ON	Logic control on the MCU PWB detected a problem with the Main Motor	Stops immediately ----- Switch off printer power, then switch on printer power
U1-3: LVPS FAN FAIL PWR OFF THEN ON	Logic control on the MCU PWB detected a problem with the LVPS Fan	Stops immediately ----- Switch off printer power, then switch on printer power
U3-1: ROS FAIL PWR OFF THEN ON	Logic control on the MCU PWB received a constant HIGH signal from the SOS Sensor	Stops immediately ----- Switch off printer power, then switch on printer power
U3-3: LD CONTROL FAIL PWR OFF THEN ON	Logic control on the MCU PWB detected that the time between signals from the SOS Sensor was longer than specified	Stops immediately ----- Switch off printer power, then switch on printer power
U3-4: LD CONTROL FAIL	Logic control on the MCU PWB detected that the time between signals from the SOS Sensor was shorter than specified	Stops immediately ----- Switch off printer power, then switch on printer power
U3-5: ROS MOTOR FAIL PWR OFF THEN ON	Logic control on the MCU PWB detected that the ROS Motor has not come up to full speed within the specified time	Stops immediately ----- Switch off printer power, then switch on printer power
U4-1: FUSER FAIL PWR OFF THEN ON	Logic control on the MCU PWB detected that the Thermistor remained on for longer than specified	Stops immediately ----- Switch off printer power, then switch on printer power

3260/4032 Print System Error Code Table continued

Error Code and Displayed Message	Meaning of, or possible reason for the Error Code	Printer response to the error ---- Methods to clear the Error Code
U4-2: FUSER FAIL OVERHEAT	Logic control on the MCU PWB detected that the Fuser temperature exceeded the temperature set for Fuser overheat	If during a print cycle; stops immediately If during standby; inhibits start of print cycle Logs error in system data <i>Clear FUSER OVER TEMP</i> ----- Run Diagnostics 50-20, and write a zero. Switch off printer power, then switch on printer power
U4-3: THERMISTOR FAIL PWR OFF THEN ON	Logic control on the MCU PWB detected that the Fuser Thermistor opened	If during a print cycle; stops immediately. If during standby; inhibits start of print cycle ----- Switch off printer power, then switch on printer power
U4-9: FAN FAIL PWR OFF THEN ON	Logic control on the MCU PWB received a Fan Alarm signal from the Fuser Fan	If during a print cycle; stops immediately If during standby; inhibits start of print cycle ----- Switch off printer power, then switch on printer power
U6-1: MEMORY ERROR PWR OFF THEN ON	Logic control on the MCU PWB had an unidentified problem with printer control	If during a print cycle; stops immediately If during standby; inhibits start of print cycle ----- Switch off printer power, then switch on printer power
U6-2: MEMORY ERROR PWR OFF THEN ON	Logic control on the MCU PWB had a problem reading information from RAM	If during a print cycle; stops immediately If during standby; inhibits start of print cycle ----- Switch off printer power, then switch on printer power

3260/4032 Print System Error Code Table continued

Error Code and Displayed Message	Meaning of, or possible reason for the Error Code	Printer response to the error ---- Methods to clear the Error Code
U6-3: MEMORY ERROR PWR OFF THEN ON	Logic control on the MCU PWB had an unidentified problem with NVRAM	If during a print cycle; stops immediately If during standby; inhibits start of print cycle ----- Switch off printer power, then switch on printer power
U6-4: MEMORY ERROR PWR OFF THEN ON	Logic control on the MCU PWB had a problem reading information from NVRAM	If during a print cycle; stops immediately If during standby; inhibits start of print cycle ----- Switch off printer power, then switch on printer power
E1-1: PAPER JAM REGISTRATION	Logic control on the MCU PWB sensed the Registration Sensor was not actuated within the specified time since the Feed Clutch was actuated	Stops immediately ----- Open Left Cover and remove jammed sheet of paper
E1-2: PAPER JAM REGISTRATION	Logic control on the MCU PWB sensed the Fuser Exit Switch was not actuated within the specified time since the Registration Clutch was actuated	Stops immediately ----- Open Left Cover, remove jammed sheet of paper, close Left Cover
E1-3: PAPER JAM REGISTRATION	Logic control on the MCU PWB sensed the Face Up Exit Sensor was not actuated within the specified time since the Fuser Exit Switch was actuated	Stops immediately ----- Open Left Cover, remove jammed sheet of paper, close Left Cover
E1-6: PAPER JAM REGISTRATION	Logic control on the MCU PWB sensed the Registration Sensor was on while the printer was in standby	Inhibits start of print cycle ----- Open Left Cover, remove jammed sheet of paper, close Left Cover
E3-1: PAPER JAM FUSER	Logic control on the MCU PWB sensed the Fuser Exit Switch did not deactivate within the specified time after the Switch actuated	Stops immediately ----- Open Left Cover, remove jammed sheet of paper, close Left Cover

3260/4032 Print System Error Code Table continued

Error Code and Displayed Message	Meaning of, or possible reason for the Error Code	Printer response to the error ---- Methods to clear the Error Code
E3-6: PAPER JAM FUSER	Logic control on the MCU PWB sensed the Fuser Exit Switch was on while the printer was in standby	Inhibits start of print cycle ----- Open Left Cover, remove jammed sheet of paper, close Left Cover
E4-1: PAPER JAM FACE UP EXIT	Logic control on the MCU PWB sensed that during the Face Down Mode, the Face Up Exit Sensor did not deactuate within the specified time after the Sensor actuated	Stops immediately ----- Open Left Cover, remove jammed sheet of paper, close Left Cover
E4-2: PAPER JAM FACE UP EXIT	Logic control on the Duplex PWB sensed the Duplex Module Exit Sensor did not actuate within the specified time after the Face Up Exit Sensor was actuated	Stops immediately ----- With Duplex Module: Open Duplex Module and remove jammed sheet of paper, then open Left Cover and remove jammed sheet of paper. Without Duplex Module: Open Left Cover and remove the jammed sheet of paper
E4-3: PAPER JAM FACE UP EXIT	Logic control on the Duplex PWB sensed that during Duplex Mode, the Face Up Exit Sensor did not deactuate within the specified time after the Sensor actuated.	Stops immediately ----- Open Left Cover, remove jammed sheet of paper, close Left Cover
E4-5: PAPER JAM FACE UP EXIT	Logic control on the MCU PWB sensed the Face Up Exit Sensor did not actuate within the specified time during the second feed from the Duplex Module.	Stops immediately ----- With Duplex Module: Open Duplex Module and remove jammed sheet of paper, then open Left Cover and remove jammed sheet of paper. Without Duplex Module: Open Left Cover and remove the jammed sheet of paper

3260/4032 Print System Error Code Table continued

Error Code and Displayed Message	Meaning of, or possible reason for the Error Code	Printer response to the error ---- Methods to clear the Error Code
E4-6: PAPER JAM FACE UP EXIT	Logic control on the MCU PWB sensed the Face Up Exit Sensor was on while the printer was in standby.	Inhibits start of print cycle ----- With Duplex Module: Open Duplex Module and remove jammed sheet of paper, then open Left Cover and remove jammed sheet of paper. Without Duplex Module: Open Left Cover and remove the jammed sheet of paper
E5-1: L/H CVR OPEN PLEASE CLOSE CVR	Logic control on the MCU PWB sensed the Left Cover is open	If during a print cycle; stops immediately If during standby; inhibits start of print cycle ----- Close the Left Cover
E5-2: ITM CVR OPEN PLEASE CLOSE CVR	Logic control on the MCU PWB sensed the Left Lower Cover (Transport Chute) is open	If during a print cycle; stops immediately If during standby; inhibits start of print cycle ----- Close the Left Lower Cover
E6-1: CABNT CVR OPEN PLEASE CLOSE CVR	Logic control on the MCU PWB sensed the High Capacity Feeder Cabinet Cover is open	If during a print cycle; stops immediately If during standby; inhibits start of print cycle ----- Close the Cabinet Cover
E7-3: DUP OPEN PLEASE CLOSE CVR	Logic control on the Duplex PWB sensed the Duplex Module is open	If during a print cycle; stops immediately If during standby; inhibits start of print cycle ----- Close the Duplex Module

3260/4032 Print System Error Code Table continued

Error Code and Displayed Message	Meaning of, or possible reason for the Error Code	Printer response to the error ---- Methods to clear the Error Code
E8-1: JAM DUPLEX PLEASE CLEAR JAM	Logic control on the Duplex PWB sensed the Duplex Module Exit Sensor did not deactuate within the specified time after the Sensor was actuated	Stops immediately ----- Open Duplex Module, remove jammed sheet of paper, close Duplex Module
E8-2: JAM DUPLEX PLEASE CLEAR JAM	Logic control on the Duplex PWB sensed the Duplex Module Exit Sensor did not actuate within the specified time after the Face Up Sensor was actuated	Stops immediately ----- Open Duplex Module, remove jammed sheet of paper, close Duplex Module
E8-6: JAM DUPLEX PLEASE CLEAR JAM	Logic control on the Duplex PWB sensed the Duplex Module Exit Sensor was on while the printer was in standby	Inhibits start of print cycle ----- Open Duplex Module, remove jammed sheet of paper, close Duplex Module
C1-3: PAPER JAM MISFEED TRAY 1	Logic control on the MCU PWB sensed that the Registration Sensor did not actuate within the specified time after the Tray 1 Feed Clutch was actuated	Stops after previous sheets of paper have exited printer ----- Open Left Cover, remove jammed sheet of paper, close Left Cover
C2-3: PAPER JAM MISFEED TRAY 2	Logic control on the MCU PWB sensed that the Registration Sensor did not actuate within the specified time after the Tray 2 Feed Clutch was actuated	Stops immediately ----- Open Left Cover, remove jammed sheet of paper, close Left Cover
C3-2: PAPER JAM MISFEED TRAY 3	Logic control on the MCU PWB sensed that when paper was fed from Tray 3, the Tray 2 Take Away Sensor did not actuate within the specified time after the Tray 3 Feed Clutch was actuated	Stops after previous sheets of paper have exited printer ----- Open the Left Cover, remove jammed sheet of paper, close the left Cover

3260/4032 Print System Error Code Table continued

Error Code and Displayed Message	Meaning of, or possible reason for the Error Code	Printer response to the error ---- Methods to clear the Error Code
C3-3: PAPER JAM MISFEED TRAY 3	Logic control on the MCU PWB sensed that when paper was fed from Tray 3, the Registration Sensor did not actuate within the specified time after the Tray 2 Take Away Sensor actuated	Stops immediately ----- Open the Left Cover, remove jammed sheet of paper, close the Left Cover
C4-1: PAPER JAM MISFEED TRAY 4	Logic control on the MCU PWB sensed that when paper was fed from Tray 4, the Tray 3 Take Away Sensor did not actuate within the specified time after the Tray 4 Feed Clutch was actuated	Stops after previous sheets of paper have exited printer ----- Open the HCF Left Cover, remove jammed sheet of paper, close the Left Cover
C4-2: PAPER JAM MISFEED TRAY 4	Logic control on the MCU PWB sensed that when paper was fed from Tray 4, the Tray 2 Take Away Sensor did not actuate within the specified time after the Tray 3 Take Away Sensor was actuated	Stops after previous sheets of paper have exited printer ----- Open the HCF Left Cover, remove jammed sheet of paper, close the Left Cover
C4-3: PAPER JAM MISFEED TRAY 4	Logic control on the MCU PWB sensed that when paper was fed from Tray 4, the Registration Sensor was not actuated within the specified time after the Tray 2 Take Away Sensor was actuated	Stops immediately ----- Open the HCF Left Cover, remove jammed sheet of paper, close the Left Cover

3260/4032 Print System Error Code Table continued

Error Code and Displayed Message	Meaning of, or possible reason for the Error Code	Printer response to the error ---- Methods to clear the Error Code
C5-0: PAPER JAM MISFEED TRAY 5	Logic control on the MCU PWB sensed that when paper was fed from Tray 5, the Tray 4 Take Away Sensor did not actuate within the specified time after the Tray 5 Feed Clutch was actuated	Stops after previous sheets of paper have exited printer ----- Open the HCF Left Cover, remove jammed sheet of paper, close the Left Cover
C5-1: PAPER JAM MISFEED TRAY 5	Logic control on the MCU PWB sensed that when paper was fed from Tray 5, the Tray 3 Take Away Sensor did not actuate within the specified time after the Tray 4 Take Away Sensor was actuated	Stops after previous sheets of paper have exited printer ----- Open the HCF Left Cover, remove jammed sheet of paper, close the Left Cover
C5-2: PAPER JAM MISFEED TRAY 5	Logic control on the MCU PWB sensed that when paper was fed from Tray 5, the Tray 2 Take Away Sensor did not actuate within the specified time after the Tray 3 Take Away Sensor was actuated	Stops after previous sheets of paper have exited printer ----- Open the HCF Left Cover, remove jammed sheet of paper, close the Left Cover
C5-3: PAPER JAM MISFEED TRAY 5	Logic control on the MCU PWB sensed that when paper was fed from Tray 5, the Registration Sensor did not actuate within the specified time after the Tray 2 Take Away Sensor was actuated	Stops immediately ----- Open the HCF Left Cover, remove jammed sheet of paper, close the Left Cover
C6-1: PAPER JAM MISFEED DUP	Logic control on the MCU PWB sensed that the Registration Sensor did not actuate within the specified time after the Duplex Wait Clutch was actuated	Stops after previous sheets of paper have exited printer ----- Open the Duplex Module, remove jammed sheet of paper, close the Duplex Module
C8-1: PAPER JAM ENV	Logic control on the MCU PWB sensed that the Envelope Feed Sensor was on while the printer was in standby	Inhibits start of print cycle ----- Open Envelope Feeder, remove jammed envelope, close the Envelope Feeder

3260/4032 Print System Error Code Table continued

Error Code and Displayed Message	Meaning of, or possible reason for the Error Code	Printer response to the error ---- Methods to clear the Error Code
C8-2: PAPER JAM TAKE AWAY	Logic control on the MCU PWB sensed that the Tray 2 Take Away Sensor was on while the printer was in standby	Inhibits start of print cycle ----- Remove Tray 2 or open Left Cover, remove jammed paper, and close cover
C8-3: PAPER JAM TAKE AWAY	Logic control on the MCU PWB sensed that the Tray 3 Take Away Sensor was on while the printer was in standby	Inhibits start of print cycle ----- Remove Tray 3 or open Left Cover, remove jammed paper, close cover
C8-4: PAPER JAM TAKE AWAY	Logic control on the MCU PWB sensed that the Tray 4 Take Away Sensor was on while the printer was in standby	Inhibits start of print cycle ----- Remove Tray 4 or open Left Cover, remove jammed paper, close cover
C8-6: PAPER JAM DUP	Logic control on the Duplex PWB sensed that the Duplex Wait Sensor was on while the printer was in standby	Inhibits start of print cycle ----- Open Duplex Module, remove jammed paper, close Duplex Module
C9-1: PAPER JAM MISFEED MSI/ENV	Logic control on the MCU PWB sensed that the Envelope Feed Sensor did not actuate within the specified time after the Envelope Feed Clutch was actuated	Stops after previous sheets of paper have exited printer ----- Open the Envelope Feeder, remove jammed sheet of paper, close Envelope Feeder
C9-2: PAPER JAM MISFEED MSI/ENV	Logic control on the MCU PWB sensed that the Tray 2 Take Away Sensor did not actuate within the specified time after the MSI/Envelope Feed Clutch was actuated	Stops after previous sheets of paper have exited printer ----- Open the Envelope Feeder, remove jammed sheet of paper, close Envelope Feeder

3260/4032 Print System Error Code Table continued

Error Code and Displayed Message	Meaning of, or possible reason for the Error Code	Printer response to the error ---- Methods to clear the Error Code
C9-3: PAPER JAM MISFEED MSI/ENV	Logic control on the MCU PWB sensed that when paper was fed from the MSI or Envelope Feeder, that the Registration Sensor did not actuate within the specified time after the MSI/Envelope Feed Clutch was actuated	Stops immediately ----- Open the Envelope Feeder, remove jammed sheet of paper, close the Envelope Feeder
F2-1: PAPER JAM MAILBOX IN SENSOR	Logic control on the MCU PWB sensed that the Mailbox Entrance Sensor did not actuate within the specified time after the Fuser Exit Sensor was actuated	Stops immediately ----- Open the Mailbox Left Cover, remove jammed sheet of paper, and close the Left Cover
F2-2: PAPER JAM MAILBOX IN SENSOR	Logic control on the MCU PWB sensed that the Mailbox Entrance Sensor did not deactuate within the specified time after the Sensor was actuated	Stops immediately ----- Open the Mailbox Left Cover, remove jammed sheet of paper, and close the Left Cover
F2-3: PAPER JAM MAILBOX IN SENSOR	Logic control on the MCU PWB sensed that the Mailbox Entrance Sensor was actuated while the printer was not in Mailbox mode	Stops immediately ----- Open the Mailbox Left Cover, remove jammed sheet of paper, and close the Left Cover
F2-6: PAPER JAM MAILBOX IN SENSOR	Logic control on the MCU PWB sensed that the Mailbox Entrance Sensor was on while the printer was in standby	Inhibits start of print cycle ----- Open the Mailbox Left Cover, remove jammed sheet of paper, and close the Left Cover

3260/4032 Print System Error Code Table continued

Error Code and Displayed Message	Meaning of, or possible reason for the Error Code	Printer response to the error ---- Methods to clear the Error Code
F3-1: PAPER JAM MAILBOX VERTICAL SENSOR	Logic control on the MCU PWB sensed that either the Mailbox Vertical Sensor did not actuate within the specified time after the Mailbox Entrance Sensor was actuated or that BIN 1 Jam Sensor did not actuate within the specified time after the Mailbox Entrance Sensor was actuated	Stops immediately ----- Open the Mailbox Left Cover, remove jammed sheet of paper, and close the Left Cover

Error Code and Displayed Message	Meaning of, or possible reason for the Error Code	Printer response to the error ---- Methods to clear the Error Code
F3-2: PAPER JAM MAILBOX VERTICAL SENSOR	Logic control on the MCU PWB sensed that either the Mailbox Vertical Sensor did not actuate within the specified time after the Mailbox Entrance Sensor was actuated or that BIN 1 Jam Sensor did not deactivate within the specified time after the BIN1 Jam Sensor was actuated	Stops immediately ----- Open the Mailbox Left Cover, remove jammed sheet of paper, and close the Left Cover
F3-6: PAPER JAM MAILBOX SENSOR	Logic control on the MCU PWB sensed that either the Mailbox Vertical Sensor or the BIN 1 Jam Sensor did not deactivate within the specified time after they were actuated	If during a print cycle; stops immediately If during standby; inhibits start of print cycle ----- Open the Mailbox Left Cover, remove jammed sheet of paper, and close the Left Cover
F4-11: PAPER JAM FINISHER TRANSPORT	Logic control on the MCU PWB sensed that the Transport Entrance Sensor did not deactivate within the specified time after the Sensor was actuated	Stops immediately ----- Open the Transport Gate In Cover, remove jammed sheet of paper, and close the Cover
F4-12: PAPER JAM FINISHER TRANSPORT	Logic control on the MCU PWB sensed that the Transport Entrance Sensor did not actuate within the specified time after the Fuser Exit Sensor was deactivated	Stops after previous sheets of paper have exited printer ----- Open the Transport Gate In Cover, remove jammed sheet of paper, and close the Cover

3260/4032 Print System Error Code Table continued

Error Code and Displayed Message	Meaning of, or possible reason for the Error Code	Printer response to the error ---- Methods to clear the Error Code
F4-13: PAPER JAM FINISHER TRANSPORT	Logic Control on the MCU PWB sensed that the Transport Entrance Sensor was actuated during HCS initialization.	Stops after previous sheets of paper have exited printer ----- Open the Transport Gate In Cover, remove jammed sheet of paper, and close the Cover
F4-16: PAPER JAM FINISHER TRANSPORT	Logic control on the MCU PWB sensed that the Transport Entrance Sensor was on while the printer was in standby	Inhibits start of print cycle ----- Open the Transport Gate In Cover, remove jammed sheet of paper, and close the Cover
F4-21: PAPER JAM FINISHER EXIT	Logic control on the MCU PWB sensed that the Transport Exit Sensor did not deactuate within the specified time after the Transport Exit Sensor was actuated	Stops after previous sheets of paper have exited printer ----- Open the Transport Gate In Cover, remove jammed sheet of paper, and close the Cover
F4-22: PAPER JAM FINISHER EXIT	Logic control on the MCU PWB sensed that the Transport Exit Sensor did not actuate within the specified time after the Transport Entrance Sensor was actuated	Stops after previous sheets of paper have exited printer ----- Open the Transport Gate In Cover, remove jammed sheet of paper, and close the Cover
F4-23: PAPER JAM FINISHER EXIT	Logic control on the MCU PWB sensed that during Finisher initialization, the Transport Exit Sensor actuated	Stops after previous sheets of paper have exited printer ----- Open the Transport Gate In Cover, remove jammed sheet of paper, and close the Cover
F4-26: PAPER JAM FINISHER EXIT	Logic control on the MCU PWB sensed that the Transport Exit Sensor was on while the printer was in standby	Inhibits start of print cycle ----- Open the Transport Gate In Cover, remove jammed sheet of paper, and close the Cover

3260/4032 Print System Error Code Table continued

Error Code and Displayed Message	Meaning of, or possible reason for the Error Code	Printer response to the error ---- Methods to clear the Error Code
F4-31: PAPER JAM COMPILE TRAY EXIT	Logic control on the MCU PWB sensed that the Compiler Tray Exit Sensor did not deactuate within the specified time after the Compiler Tray Exit Sensor was actuated	Stops immediately ----- Open the Compiler Cover, remove jammed sheet of paper, and close the Cover
F4-32: PAPER JAM COMPILE TRAY EXIT	Logic control on the MCU PWB sensed that the Compiler Tray Exit Sensor did not actuate within the specified time after the Transport Exit Sensor was deactuated	Stops immediately ----- Open the Compiler Cover, remove jammed sheet of paper, and close the Cover
F4-36: PAPER JAM COMPILE TRAY EXIT	Logic control on the MCU PWB sensed that the Compiler Tray Exit Sensor was on while the printer was in standby	Inhibits start of print cycle ----- Open the Compiler Cover, remove jammed sheet of paper, and close the Cover
F4-41: PAPER JAM COMPILE TRAY EXIT	Logic control on the MCU PWB sensed that the Compiler Paper Sensor neither actuated nor deactuated within the specified time after the Eject Motor was switched on	Stops immediately ----- Open the Compiler Cover, remove jammed sheet of paper, and close the Cover
F4-46: PAPER JAM COMPILE TRAY EXIT	Logic control on the MCU PWB sensed that the Compiler Paper Sensor was on while the printer was in standby	Inhibits start of print cycle ----- Open the Compiler Cover, remove jammed sheet of paper, and close the Cover
F5-1: INTERLOCK OPEN MAILBOX	Logic control on the MCU PWB sensed that the Mailbox Left Cover is open	Inhibits start of print cycle ----- Close the cover
F6-1: INTERLOCK OPEN GATE IN CVR	Logic control on the MCU PWB sensed that the In Gate Cover is open	Stops after previous sheets of paper have exited printer and inhibits start of the print cycle ----- Close the Gate In Cover
F6-2: INTERLOCK OPEN TRANSPORT CVR	Logic control on the MCU PWB sensed that the upper Transport Cover is open	Stops after previous sheets of paper have exited printer and inhibits start of the print cycle ----- Close the Transport Cover

3260/4032 Print System Error Code Table continued

Error Code and Displayed Message	Meaning of, or possible reason for the Error Code	Printer response to the error ---- Methods to clear the Error Code
F7-1: INTERLOCK OPEN FRONT CVR	Logic control on the MCU PWB sensed that the Front Cover is open	Stops after previous sheets of paper have exited printer and inhibits start of the next print cycle ----- Close the Front Cover
F7-2: INTERLOCK OPEN TOP CVR	Logic control on the MCU PWB sensed that the Top Cover is open	If during a print cycle; stops immediately If during standby; inhibits start of print cycle ----- Close the Compier Cover
F7-3: SAFETY SWITCH OPEN COMPLIER CVR	Logic control on the MCU PWB sensed that the Compier Cover is open and the Compier Cover Safety Switch is not actuated	If during a print cycle; stops immediately If during standby; inhibits start of print cycle ----- Close the Compier Cover Safety Switch
F7-4: INTERLOCK OPEN COMPLIER CVR	Logic control on the MCU PWB sensed that the Compier Cover is open	If during a print cycle; stops immediately If during standby; inhibits start of print cycle ----- Close the Compier Cover
F8-1: INTERLOCK OPEN FINISHER CVR	Logic control on the MCU PWB sensed that the Finisher Cover is open	If during a print cycle; stops immediately If during standby; inhibits start of print cycle ----- Close the Finisher Cover
H1-1: TRAY FAIL TRAY 1	Logic control on the MCU PWB sensed that the Tray 1 Paper Level Sensor did not actuate within the specified time after the Tray 1 Lift Up Motor was actuated	Inhibits use of Tray 1 ----- Reinsert Tray 1 or switch power off, then on

3260/4032 Print System Error Code Table continued

Error Code and Displayed Message	Meaning of, or possible reason for the Error Code	Printer response to the error ---- Methods to clear the Error Code
H1-2: TRAY FAIL TRAY 2	Logic control on the MCU PWB sensed that the Tray 2 Paper Level Sensor did not actuate within the specified time after the Tray 2 Lift Up Motor was actuated	Inhibits use of Tray 2 ----- Reinsert Tray 2 or switch power off, then on
H1-3: TRAY FAIL TRAY 3	Logic control on the MCU PWB sensed that the Tray 3 Paper Level Sensor did not actuate within the specified time after the Tray 3 Lift Up Motor was actuated	Inhibits use of Tray 3 ----- Reinsert Tray 3 or switch power off, then on
H1-4: TRAY FAIL TRAY 4	Logic control on the MCU PWB sensed that the Tray 4 Paper Level Sensor did not actuate within the specified time after the Tray 4 Lift Up Motor was actuated	Inhibits use of Tray 4 ----- Reinsert Tray 4 or switch power off, then on
H1-5: TRAY FAIL TRAY 5	Logic control on the MCU PWB sensed that the Tray 5 Paper Level Sensor did not actuate within the specified time after the Tray 5 Lift Up Motor was actuated	Inhibits use of Tray 5 ----- Reinsert Tray 5 or switch power off, then on
H2-7: COMMUNICATION ERROR DUP	Logic control on the MCU PWB could not initialize the Duplex Module within the specified time	During a Duplex or a Face Up output print cycle; stops immediately During standby; inhibits start of a Duplex or of a Face Up output print cycle ----- Switch power off, then on
H4-1: WRONG PAPER	Logic control on the MCU PWB sensed a problem with the paper loaded in Tray 1	Inhibits use of Tray 1 ----- Replace the paper in Tray 1 with a different size of paper
H4-2: SHORT PAPER	Logic control on the MCU PWB sensed a problem with the paper loaded in Tray 2	Inhibits use of Tray 2 ----- Replace the paper in Tray 2 with a different size of paper
H4-3: SHORT PAPER	Logic control on the MCU PWB sensed a problem with the paper loaded in Tray 3	Inhibits use of Tray 3 ----- Replace the paper in Tray 3 with a different size of paper

3260/4032 Print System Error Code Table continued

Error Code and Displayed Message	Meaning of, or possible reason for the Error Code	Printer response to the error ---- Methods to clear the Error Code
H4-4: SHORT PAPER	Logic control on the MCU PWB sensed a problem with the paper loaded in Tray 4	Inhibits use of Tray 4 ----- Replace the paper in Tray 4 with a different size of paper
H4-5: SHORT PAPER	Logic control on the MCU PWB sensed a problem with the paper loaded in Tray 5	Inhibits use of Tray 5 ----- Replace the paper in Tray 5 with a different size of paper
H5-7: COMMUNICATION FAIL MAILBOX	Logic control on the MCU PWB could not initialize the Mailbox within the specified time	During Mailbox mode print cycle; stops immediately During standby; inhibits start of a Mailbox Mode print cycle ----- Switch power off, then on
H5-11: STACKER TRAY 1 FAILURE	Logic control on the MCU PWB sensed the Stack Height Sensor either did not actuate within the specified time after the Stacker Tray 1 Motor switched on to raise Tray 1 or did not deactuate within the specified time after the Stacker Tray 1 Motor switch on to lower Tray 1	Stops immediately ----- Switch power off, then on
H5-12: STACKER TRAY 2 FAILURE	Logic control on the MCU PWB sensed the Stack Height Sensor either did not actuate within the specified time after the Stacker Tray 2 Motor switched on to raise Tray 2 or did not deactuate within the specified time after the Stacker Tray 2 Motor switch on to lower Tray 2	Stops immediately ----- Switch power off, then on
H5-13: STACKER TRAY 3 FAILURE	Logic control on the MCU PWB sensed the Stack Height Sensor either did not actuate within the specified time after the Stacker Tray 3 Motor switched on to raise Tray 3 or did not deactuate within the specified time after the Stacker Tray 3 Motor switch on to lower Tray 3	Stops immediately ----- Switch power off, then on

3260/4032 Print System Error Code Table continued

Error Code and Displayed Message	Meaning of, or possible reason for the Error Code	Printer response to the error ---- Methods to clear the Error Code
H5-21: STACKER TRAY 1 UPPER LIMIT FAILURE	Logic control on the MCU PWB sensed the Stack Tray 1 Upper Limit Sensor is actuated	Stops immediately ----- Switch power off, then on
H5-22: STACKER TRAY 2 UPPER LIMIT FAILURE	Logic control on the MCU PWB sensed the Stack Tray 2 Upper Limit Sensor is actuated	Stops immediately ----- Switch power off, then on
H5-23: STACKER TRAY 3 UPPER LIMIT FAILURE	Logic control on the MCU PWB sensed the Stack Tray 3 Upper Limit Sensor is actuated	Stops immediately ----- Switch power off, then on
H5-31: STACKER TRAY 1 LOWER LIMIT FAILURE	Logic control on the MCU PWB sensed the Stack Tray 1 Lower Limit Sensor is actuated	Stops immediately ----- Switch power off, then on
H5-32: STACKER TRAY 2 LOWER LIMIT FAILURE	Logic control on the MCU PWB sensed the Stack Tray 2 Lower Limit Sensor is actuated	Stops immediately ----- Switch power off, then on
H5-33: STACKER TRAY 3 LOWER LIMIT FAILURE	Logic control on the MCU PWB sensed the Stack Tray 3 Lower Limit Sensor is actuated	Stops immediately ----- Switch power off, then on
H5-81: FINISHER FAIL EJECT CLAMP	Logic control on the MCU PWB sensed that the Finisher Eject Clamp either does not go from actuated to deactuated or from deactuated to actuated within the specified time	During Finisher mode print cycle; stops immediately During standby; inhibits start of a Finisher print cycle ----- Switch power off, then on
H5-82: FINISHER FAIL TAMPER SENSOR	Logic control on the MCU PWB sensed that the Tamper Sensor either did not actuate within the specified time after Tamper begins moving to the Rear position, or that the Tamper Sensor did not deactuate within the specified time after the Tamper begins moving to the Front position	During Finisher mode print cycle stops after all sheets of paper have exited printer During standby; inhibits start of a Finisher print cycle ----- Switch power off, then on
H5-83: FINISHER FAIL STACKER SENSOR	Logic control on the MCU PWB sensed that the Stacker Offset Home Sensor either does not go from actuated to deactuated or from deactuated to actuated within the specified time	During Finisher mode print cycle stops after all sheets of paper have exited printer During standby; inhibits start of a Finisher print cycle ----- Switch power off, then on

3260/4032 Print System Error Code Table continued

Error Code and Displayed Message	Meaning of, or possible reason for the Error Code	Printer response to the error ---- Methods to clear the Error Code
H5-84: FINISHER FAIL STACKER TRAY ID	Logic control on the MCU PWB sensed that the Stacker Tray ID Sensor either does not go from actuated to deactuated or from deactuated to actuated within the specified time after the Stacker Tray Unit Elevator Motor is switched on	During Finisher mode; stops immediately During standby; inhibits start of a Finisher print cycle ----- Switch power off, then on
H5-85: FINISHER FAIL STACKER SWITCH	Logic control on the MCU PWB sensed that the Stacker Upper Limit Switch is actuated	During Finisher mode; stops immediately During standby; inhibits start of a Finisher print cycle ----- Switch power off, then on
H5-86: FINISHER FAIL STACKER SWITCH	Logic control on the MCU PWB sensed that the Stacker Lower Limit Switch is actuated	During Finisher mode; stops immediately During standby; inhibits start of a Finisher print cycle ----- Switch power off, then on
H5-91: FINISHER FAIL STAPLER HEAD	Logic control on the MCU PWB sensed that the Stapler Home Sensor remains deactuated after the Stapler Head started return	During Finisher mode; stops immediately During standby; inhibits start of a Finisher print cycle ----- Switch power off, then on
H5-92: FINISHER FAIL STAPLER HEAD	Logic control on the MCU PWB sensed that the Home Sensor does not actuate within the specified time after the Stapler Motor was switched on	During Finisher mode; stops immediately During standby; inhibits start of a Finisher print cycle ----- Switch power off, then on
H5-93: FINISHER FAIL STAPLER PRINT CORNER	Logic control on the MCU PWB sensed that the Stapler Front Corner Sensor does not actuate within the specified time after the Stapler Move Motor is switched on	During Finisher mode; stops immediately During standby; inhibits start of a Finisher print cycle ----- Switch power off, then on

3260/4032 Print System Error Code Table continued

Error Code and Displayed Message	Meaning of, or possible reason for the Error Code	Printer response to the error ---- Methods to clear the Error Code
H5-94: FINISHER FAIL STAPLER FRONT STRAIGHT	Logic control on the MCU PWB sensed that the Stapler Front Straight Sensor does not actuate within the specified time after the Stapler Move Motor is switched on	During Finisher mode; stops immediately During standby; inhibits start of a Finisher print cycle ----- Switch power off, then on
H5-95: FINISHER FAIL STAPLER REAR STRAIGHT	Logic control on the MCU PWB sensed that the Stapler Rear Straight Sensor does not actuate within the specified time after the Stapler Move Motor is switched on	During Finisher mode; stops immediately During standby; inhibits start of a Finisher print cycle ----- Switch power off, then on
H5-96: FINISHER FAIL STAPLER READY SENSOR	Logic control on the MCU PWB sensed that the Set Clamp Home Sensor does not actuate nor deactuate within the specified time after the Set Clamp Motor is switched on	During Finisher mode; stops immediately During standby; inhibits start of a Finisher print cycle ----- Switch power off, then on
H5-97: FINISHER FAIL STAPLER WALL SENSOR	Logic control on the MCU PWB sensed that the Stapler End Wall Sensor either does not go from actuated to deactuated or from deactuated to actuated within the specified time	During Finisher mode; stops immediately During standby; inhibits start of a Finisher print cycle ----- Switch power off, then on
H6-7: COMMUNICATION FAIL FINISHER	Logic control on the MCU PWB could not initialize the Finisher within the specified time	During Finisher mode; stops immediately During standby; inhibits start of a Finisher print cycle ----- Switch power off, then on
J1-2: TONER EMPTY	Logic control on the MCU PWB sensed that the Toner Empty Sensor was on for longer than 9 seconds	If code 50-01 is set to zero, the printer does nothing If code 50-01 is set to 1, then stops after all sheets of paper have exited printer ----- Either Open and close the Left Cover, or Switch power off, then on, or replace the EP Cartridge

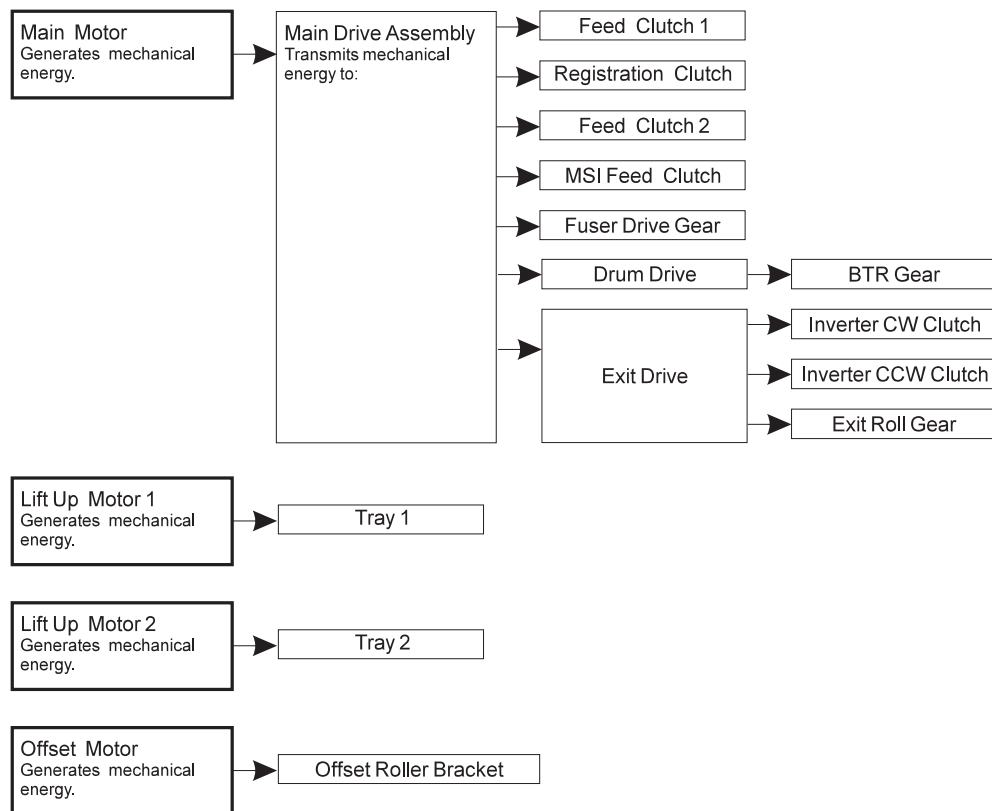
3260/4032 Print System Error Code Table continued

Error Code and Displayed Message	Meaning of, or possible reason for the Error Code	Printer response to the error ---- Methods to clear the Error Code
J3-1: EP CARTRIDGE NOT IN POSITION (alternates at 4 second intervals with the message) INSTALL/RESEAT PRINT CARTRIDGE	Logic control on the MCU PWB sensed that the CRU Sensor was deactuated (the Left Cover must be closed and the Left Cover Interlock actuated before the MCU PWB can sense the state of the CRU Sensor)	Stops immediately During standby; inhibits start of print cycle ----- Reinstall or reseal the EP Cartridge
J6-1: EP CARTRIDGE END OF LIFE	Logic control on the MCU PWB sensed that either the CRUM was nearing EP Cartridge end-of-life, or the CRU Check Area on the CRUM was out of range	Stops after all sheets of paper have exited printer During standby; inhibits start of print cycle ----- Replace the EP Cartridge
J8-1: WRONG EP CARTRIDGE	Logic control on the MCU PWB sensed that the CRU installed is not compatible with the printer	Inhibits start of print cycle ----- Replace the EP Cartridge with the correct type
J8-3: CRUM READ ERROR	Logic control on the MCU PWB could not read CRU Memory data	If during a print cycle; stops immediately If during standby; inhibits start of print cycle ----- Reseat or replace the EP Cartridge
J8-4: CRUM READ ERROR	Logic control on the MCU PWB could not access CRU Memory data	If during a print cycle; stops immediately If during standby; inhibits start of print cycle ----- Reseat or replace the EP Cartridge

3- Mechanical Drive

Mechanical Drive is a term that is used to describe both the rotation of the printer motors and the action of the gear clusters and clutches that are used to transmit and control motor rotation to the various components throughout the printer. The primary purpose of Mechanical Drive within the 3260/4032 base printer is to drive a sheet of paper out of a selected paper tray, through the printer and into an output tray. The ROS Motor is not considered part of Mechanical Drive.

The Main Drive Motor turns the Main Drive Assembly gears. The Drive Assembly provides drive to the Feed Clutches, the Registration Clutch, the Fuser, the Drum and BTR, and the Exit Clutches. Lift Up Motors supply drive to each paper tray; raising the Bottom Plate of each tray so the paper stack contacts the Feed Rolls. The Offset Motor provides drive to the Offset Rolls.



SR1314X

Mechanical Drive Components

The 3260/4032 Mechanical Drive is made up of 4 major components.

1. Offset Motor

A +24VDC motor.

2. Main Drive Assembly

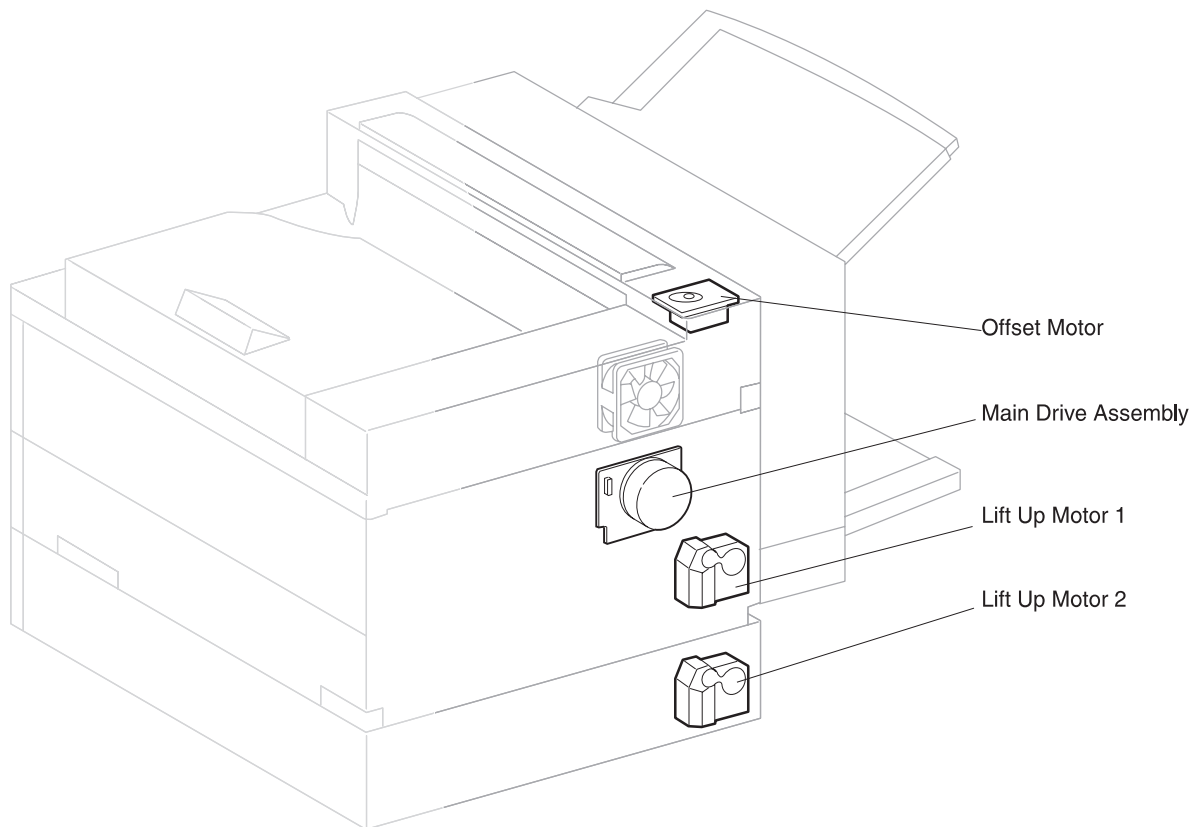
Contains the +24VDC Main Drive Motor and the Main Drive Assembly gears. The Main Motor is attached to the Main Drive Assembly.

3. Lift Up Motor 1

A +24VDC motor.

4. Lift Up Motor 2

A +24VDC motor.



SR1345X

Offset Motor

The MCU PWB switches the Offset Motor on and off. The Offset Motor transmits drive to the Offset Bracket. During Offset Mode, the MCU switches on the Offset Motor. The Motor drives the Bracket toward the front of the printer, pushing the Offset Roll along with it, until the Bracket reaches the end of travel, where it stops. The MCU again switches on the Offset Motor, which drives the Bracket toward the rear of the printer, carrying the Offset Roll along with it.

Main Motor and Main Drive Assembly

The MCU PWB switches the Main Motor on and off. The rotation of the Main Motor creates mechanical drive.

The Main Drive Assembly gears transmit the motor drive to Feed Clutch 1, Feed Clutch 2, and the MSI Feed Clutch. At paper feed, the MCU PWB actuates a Feed Clutch, which in turn transmits drive to the appropriate Feed Rolls.

The Main Drive Assembly gears transmit the motor drive to the Registration Clutch. At a specific point in each print cycle, the MCU PWB actuates the Registration Clutch, which in turn transmits drive to the Registration Roll.

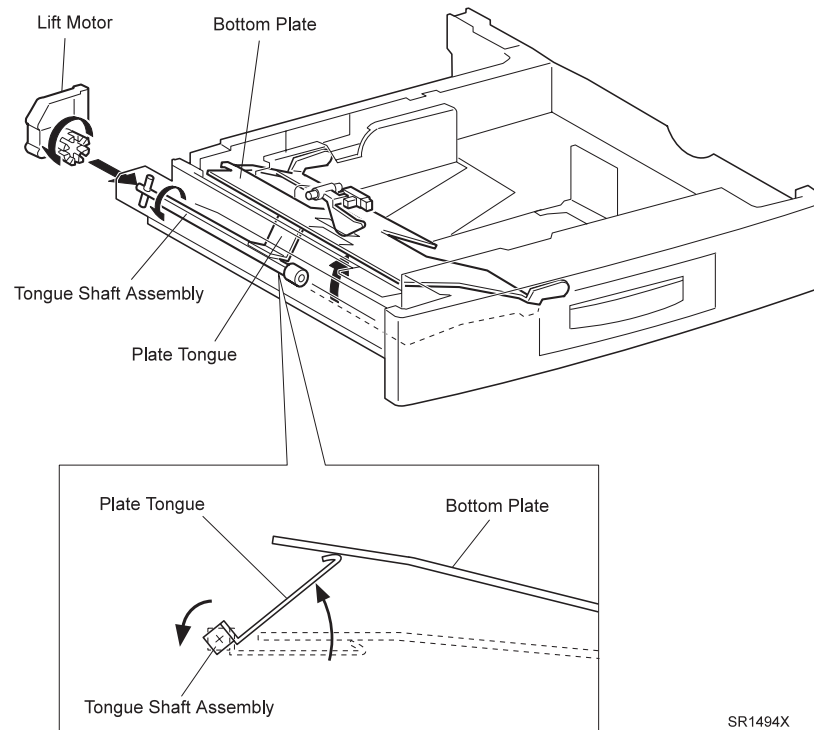
The Main Drive Assembly gears transmit the motor drive to the Fuser Drive Gear. When the Left Upper Cover is closed, the DTS Link Rod pushes the Fuser Drive Assembly into contact with the Fuser Drive Gear, which transmits drive to the Fuser Rolls.

The Main Drive Assembly gears transmit the motor drive to the Drum. When the Main Motor is on, the Drum rotates. When the Left Upper Cover is closed, the BTR gear contacts the Drum gear, which in turn rotates the BTR.

The Main Drive Assembly gears transmit the motor drive to the Exit Drive, which transmits drive to the two Inverter Clutches. At a specific point in each print cycle, the MCU PWB actuates either the CW Clutch or the CCW Clutch which drive the Exit Roll and the Offset Roll.

Lift Up Motors 1 and 2

When a Paper Tray is installed in the printer, the MCU PWB switches on the Lift Up Motor. Each tray has a square metal shaft running along one side of the tray. Attached to the shaft is an L shaped metal tongue. When the tray is inserted into the paper feeder, a pin at the end of the shaft engages the Lift Up Motor gear. When the MCU PWB switches on the Lift Up Motor, the motor rotates the square shaft. The square shaft shifts the attached metal tongue, which in turn raises the tray Bottom Plate which raises the paper stack. As the paper stack raises, it pushes up on the No Paper Actuator, which in turn switches the No Paper Sensor.

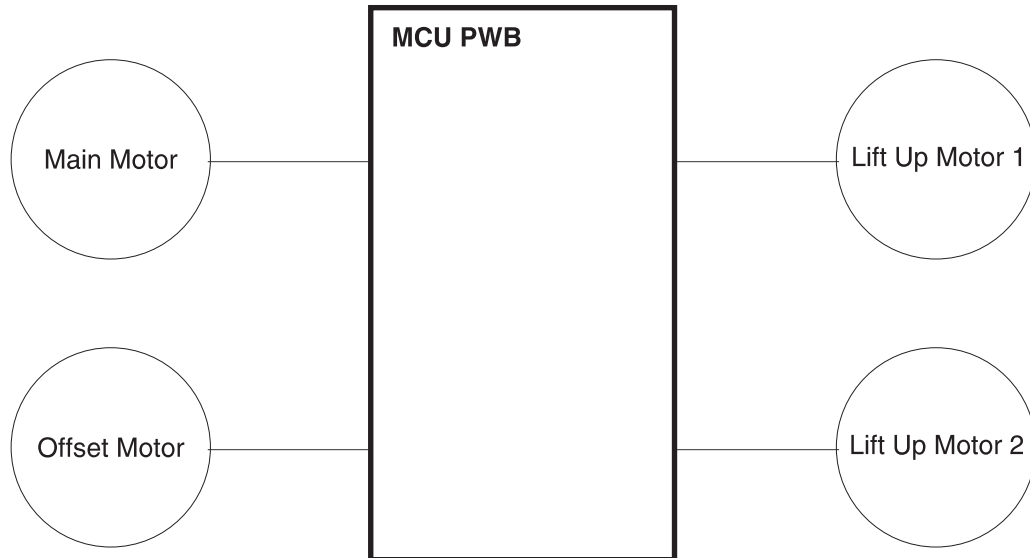


SR1494X

SR1494X

Motor Control

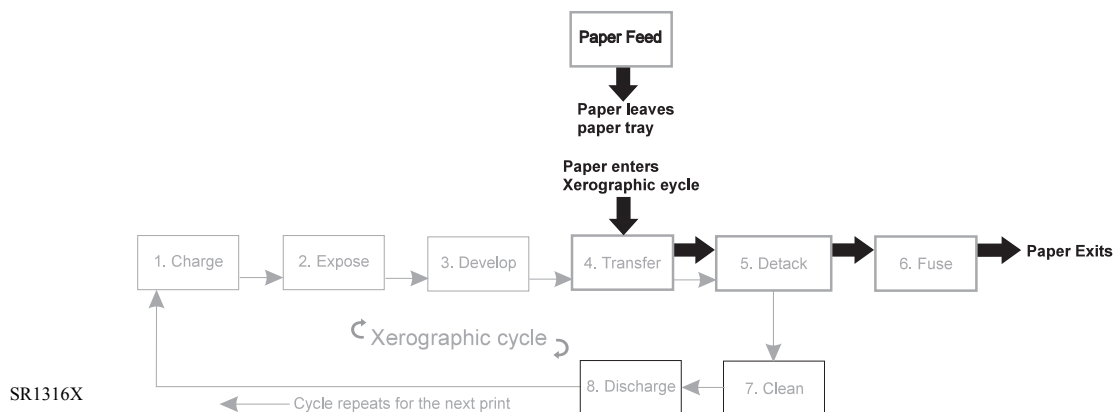
The MCU PWB provides power for and controls the operation of the Main Motor, the Lift Up Motors, and the Offset Motor. All motors are +24VDC motors. The Main Motor is a stepper motor. The MCU signals step the Main Motor through a 360° rotation. The MCU PWB provides both forward and reverse control of the Offset Motor.



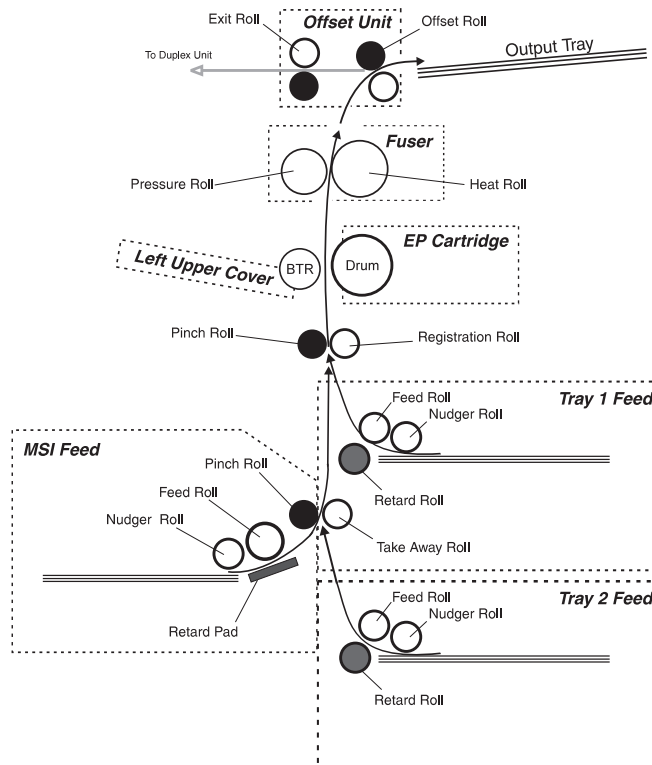
SR1315XA

4 - The Paper Path

The Paper Path is the physical route that a sheet of paper takes through the printer during a print cycle; from leaving the Paper Cassette to arriving at the Output Tray. Rubber rollers and other components drive the paper along the Paper Path.



A sheet of paper may be fed from either Tray 1, Tray 2, or from the MSI. At the start of a print cycle the Nudger Roll moves a sheet of paper into the Feed Roll. The Feed Roll moves a single sheet of paper out of Tray 1/Tray 2/MSI and toward the Registration Roll. The Retard Rolls in Tray 1 and Tray 2 or the Retard Pad in the MSI made sure that only one sheet of paper is fed. If the paper was fed from Tray 2 or the MSI the Take Away Roll drives the paper to the Registration Roll. The Registration Roll aligns the lead edge of the paper with the lead edge of the image on the drum. The Registration Roll then drives the paper into the Drum/BTR area. The rotation of the Drum and BTR drive the paper into the Fuser where the Heat and Pressure Rolls drive the paper into the Offset/Pinch Roll. During simplex printing the Offset Roll drives the paper into the Output tray. During duplex printing, the Offset Roll rotation is reversed and the Offset and Exit Roll drives the paper into the Duplex Module.



Paper Path Components

The 3260/4032 Paper Path is made up of a number of major components and subcomponents.

1. Tray Assembly

Holds plain paper of various sizes. Slides into the Feeder.

2. Feeder 1 and Feeder 2

Framework that is attached under the printer. A Tray Assembly slides into the Feeder. The Feeder includes a number of paper feed components.

Lift Up Motor raises the Tray Bottom Plate so the paper contacts the Feed Roll.

No Paper Sensor monitors the level of paper in the Tray.

Paper Size Sensor monitors the size of paper in the Tray.

Feed Clutch transmits drive to the Feed Roll and Nudger Roll.

Nudger Roll drives the top sheet of paper into the Feed Roll.

Feed Roll drives the top sheet of paper out of the Tray.

Retard Roll prevents multiple sheet feed.

Take Away Roll and Pinch Roll continue to drive the sheet of paper out of Tray 2 and toward the Registration Roll.

3. MSI Feeder

Paper feed assembly that is attached to the outside of the printer. A small quantity of paper, or the optional Envelope Feeder, fit on the MSI Feeder foldout tray. The MSI Feeder includes a number of paper feed components.

MSI No Paper Sensor monitors the level of paper in the MSI tray.

MSI Paper Size Sensor monitors the size of paper in the Tray.

MSI Feed Clutch transmits drive to the Feed Roll and Nudger Roll.

Nudger Roll drives the top sheet of paper into the Feed Roll.

Feed Roll drives the top sheet of paper out of the MSI tray.

Retard Pad prevents multiple sheet feed.

Take Away Roll and Pinch Roll continue to drive the sheet of paper out of the MSI Tray and toward the Registration Roll.

4. Registration Roll and Pinch Roll

The Registration Roll is a driven roll. The Pinch Roll is an idler that rides on the surface of the Registration Roll. The Registration Roll and Pinch Roll register a sheet of paper with the toner image on the surface of the Drum.

5. Registration Sensor

Monitors the movement of paper at the Registration Roll.

6. Drum and BTR (Bias Transfer Roll)

In addition to xerographic functions, the Drum and BTR drive the paper out of the Xerographic area and into the Fuser area.

7. Heat Roll and Pressure Roll

In addition to fusing functions, the Heat Roll and Pressure Roll drive the sheet of paper out of the Fuser and into the Offset Unit.

8. Fuser Exit Sensor

Monitors the movement of paper out of the Fuser.

9. Offset and Exit Unit

The assembly located above the Fuser. The Offset Unit drives paper to either the standard Face Down Output Tray, to the optional Face Up Output Tray, or to the Duplex Module. The Offset Unit includes a number of components.

Inverter CW and CCW Clutches transmit Main Motor drive, forward and reverse, to the Offset Rolls.

Offset Roll and Pinch Roll drive the sheet of paper either forward into the Output Tray or in reverse to the Exit Roll and on to the Duplex Module.

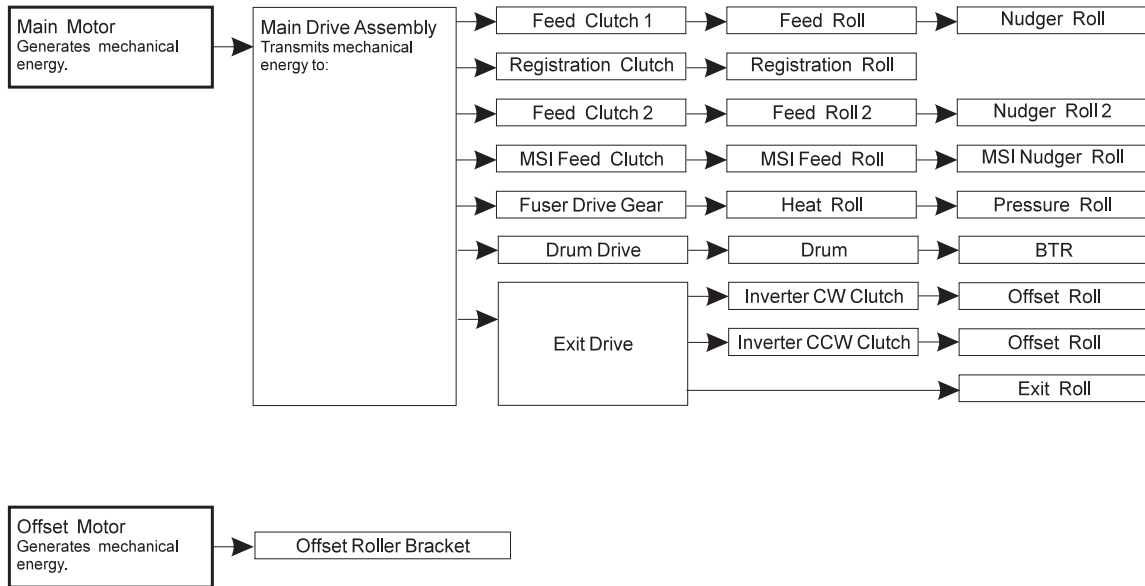
Exit Gate Solenoid controls the Exit Gate to toggle the paper path between the Output Tray or the Exit Roll and on to the Face Up Tray or Duplex Module.

Offset Motor and Offset Bracket moves the Offset Roll back and forth so paper delivered to the Output Tray will stack offset.

Exit Roll and Pinch Roll drive the sheet of paper to either the Face Up Output Tray or to the Duplex Module.

Paper Path Mechanical Drive

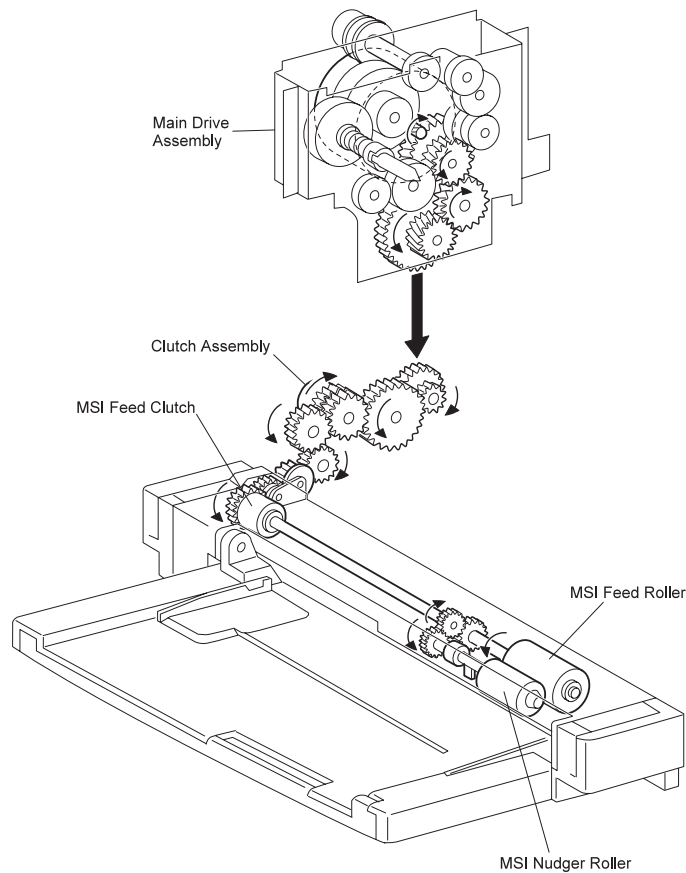
The Main Drive Assembly provides the mechanical drive for the majority of the Paper Path components. The Offset Motor provides the mechanical drive for the Offset Rolls.



SR1318X

Mechanical drive for paper fed from the MSI

The Main Motor provides mechanical drive for MSI feed. The Drive Assembly transmits drive to the MSI Feed Clutch. The MSI Feed Roll and Nudger Roll are attached to the MSI Clutch. At paper feed, the MCU switches on the MSI Feed Clutch. The MSI Feed Clutch transmits drive to the Feed Roll, which rotates and begins feeding a single sheet of paper out of the MSI Tray. Tray 1 Feed Clutch transmits drive to the Take Away Roll. The Take Away Roll and Pinch Roll drive the sheet of paper into the Registration Roll.

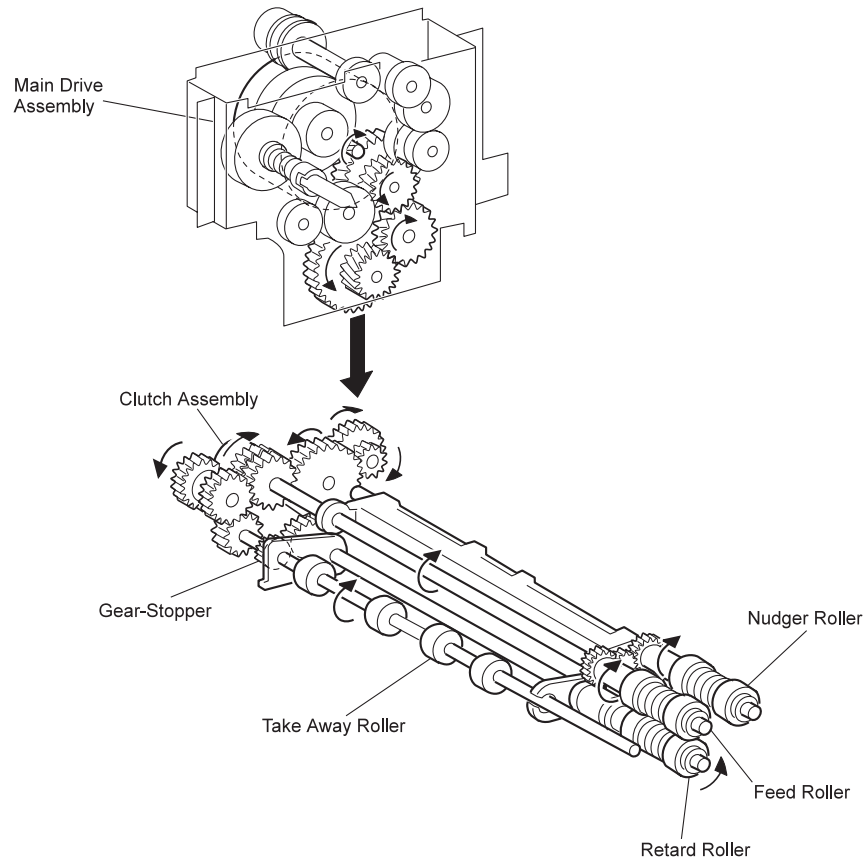


SER720F

SER720F

Mechanical Drive for Paper Fed from Tray 1

The Main Motor provides mechanical drive for Tray 1 feed. The Drive Assembly transmits drive to Tray 1 Feed Clutch. Tray 1 Feed Roll and Nudger Roll are attached to the Feed Clutch. At paper feed, the MCU switches on Tray 1 Feed Clutch. The Feed Clutch transmits drive to the Feed Roll, which rotates and begins feeding a single sheet of paper out of Tray 1.

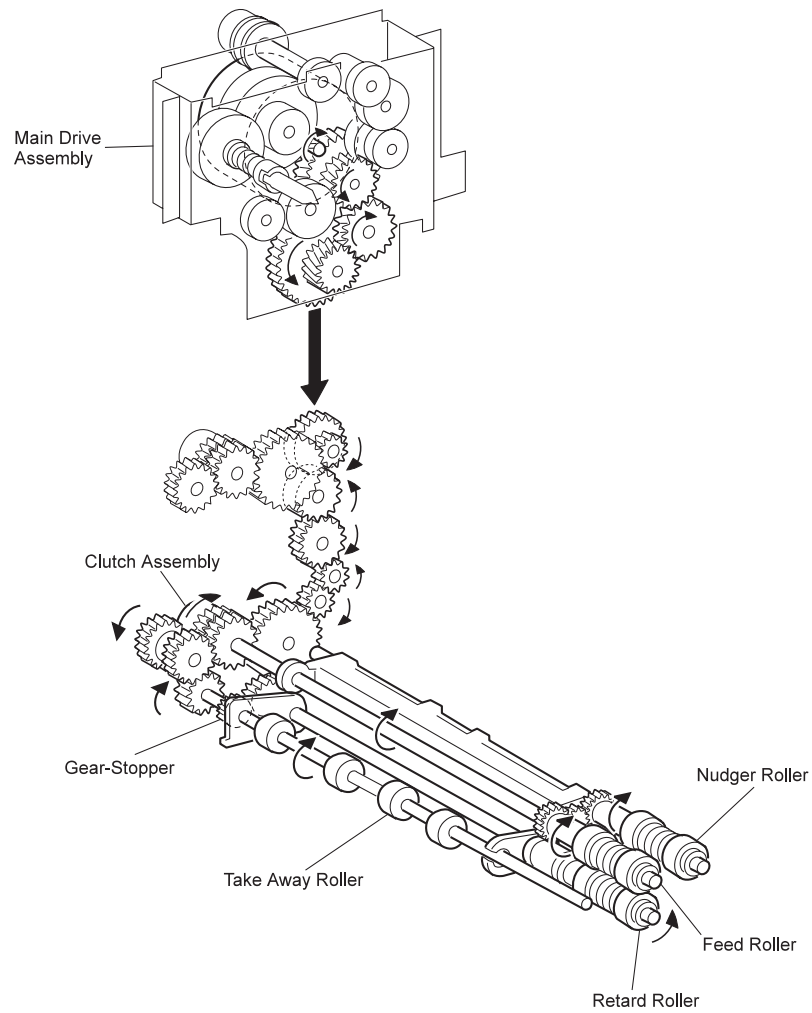


SER714F

SER714F

Mechanical Drive for Paper Fed from Tray 2

The Main Motor provides mechanical drive for Tray 2 feed. The Drive Assembly transmits drive to Tray 2 Feed Clutch. Tray 2 Feed Roll and Nudger Roll are attached to the Feed Clutch. At paper feed, the MCU switches on the Tray 2 Feed Clutch. The Feed Clutch transmits drive to the Feed Roll, which rotates and begins feeding a single sheet of paper out of Tray 2.

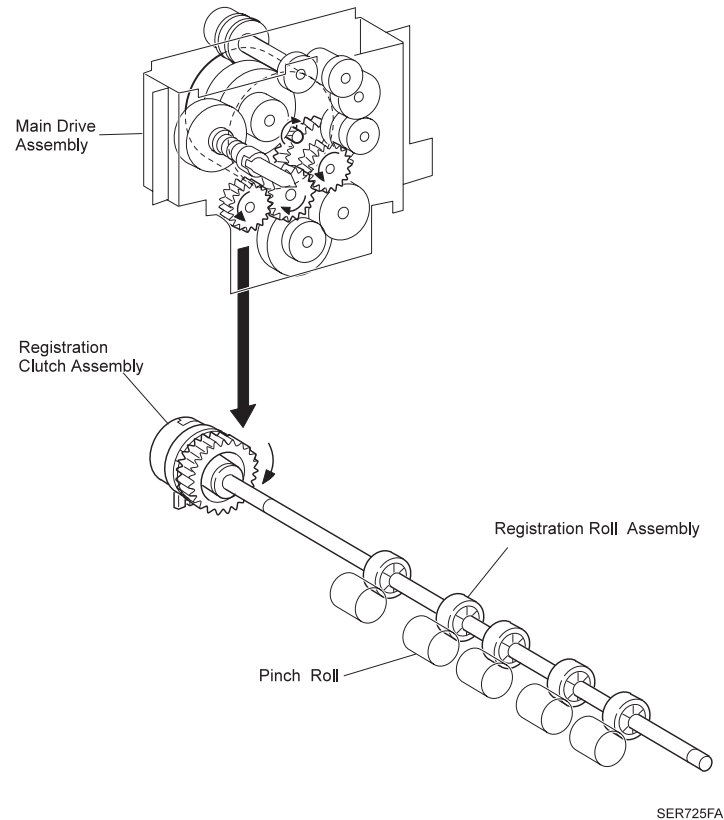


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Mechanical Drive for Registration

The Main Motor provides mechanical drive for the Registration Roll. The Main Drive Assembly transmits drive to the Registration Clutch. At a specific time in the print cycle the MCU switches on the Registration Clutch. The Registration Clutch transmits drive to the Registration Roll, which rotates and drives the sheet of paper into the Drum/BTR area.

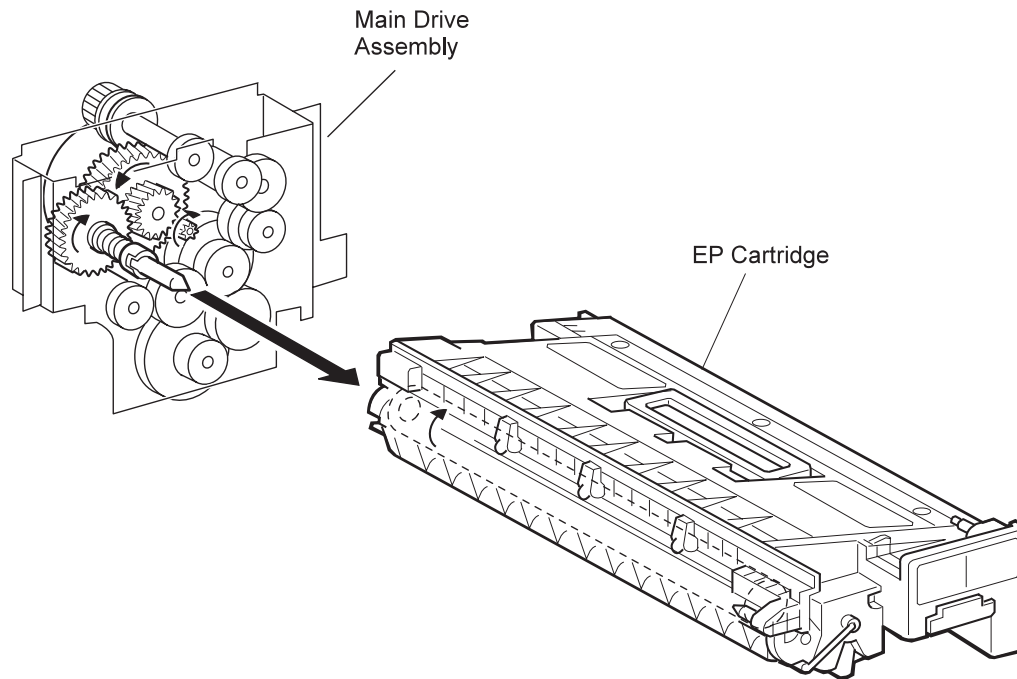


SER725FA

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Mechanical Drive for the Drum and BTR

The Main Motor provides mechanical drive for the Drum and BTR. The Main Drive Assembly transmits drive to the Drum. A shutter covers and protects the Drum surface. When the Left Cover is closed, a mechanical link opens the Shutter. When the Left Cover is open, the link closes the Shutter. A gear attached to the end of the Drum transmits drive to the BTR. Since the BTR is attached to the Left Cover Assembly, the BTR is driven only when the Left Cover is closed.

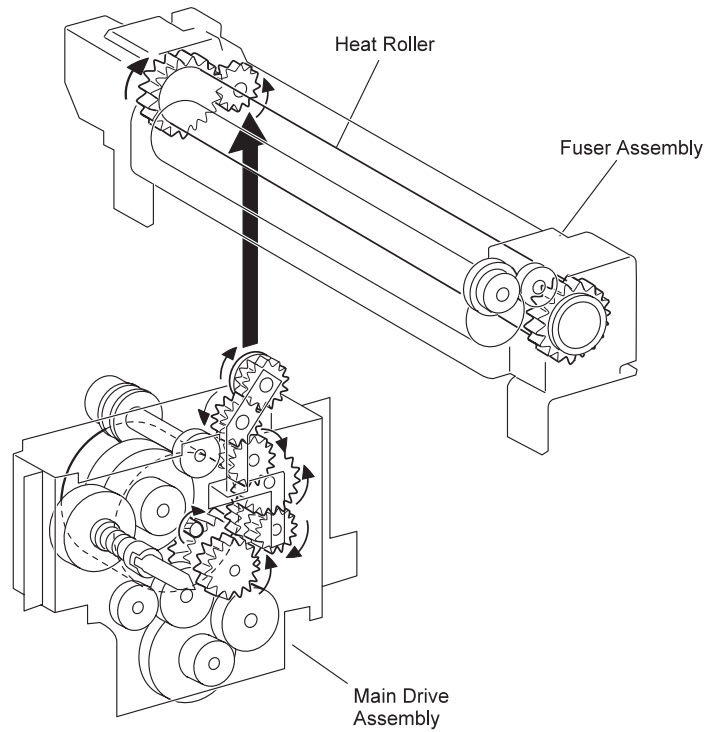


SER726F

SER726F

Mechanical Drive for the Fuser

The Main Motor provides mechanical drive for the Fuser Assembly. The Main Drive Assembly transmits drive to the Fuser Drive Assembly and on to the Fuser Heat Roll Gear. A gear at the end of the Heat Roll drives the Pressure Roll. The Heat and Pressure Rolls rotate continuously while the Main Motor is on and the Left Front Cover is closed. Part of the same mechanical link that opens and closes the Drum Shutter when the Left Cover is closed, pushes the Fuser Drive Gear against the Fuser Heat Roll intermediate gear, which transmits drive to the Fuser Heat Roll.

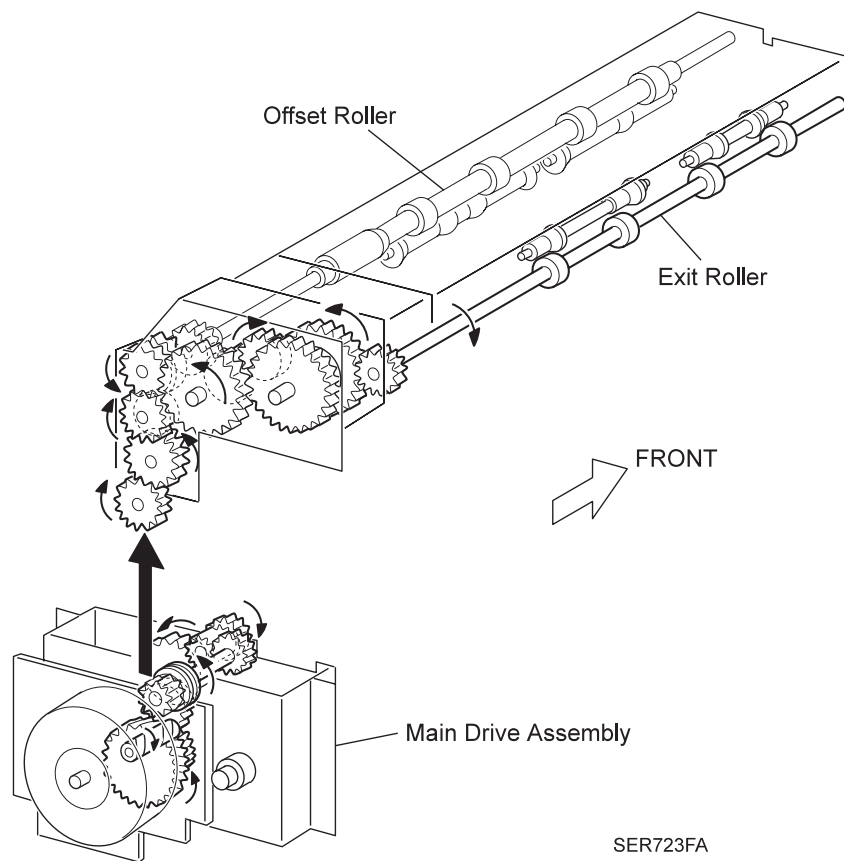


SER715F

SER715F

Mechanical Drive for Exit Drive

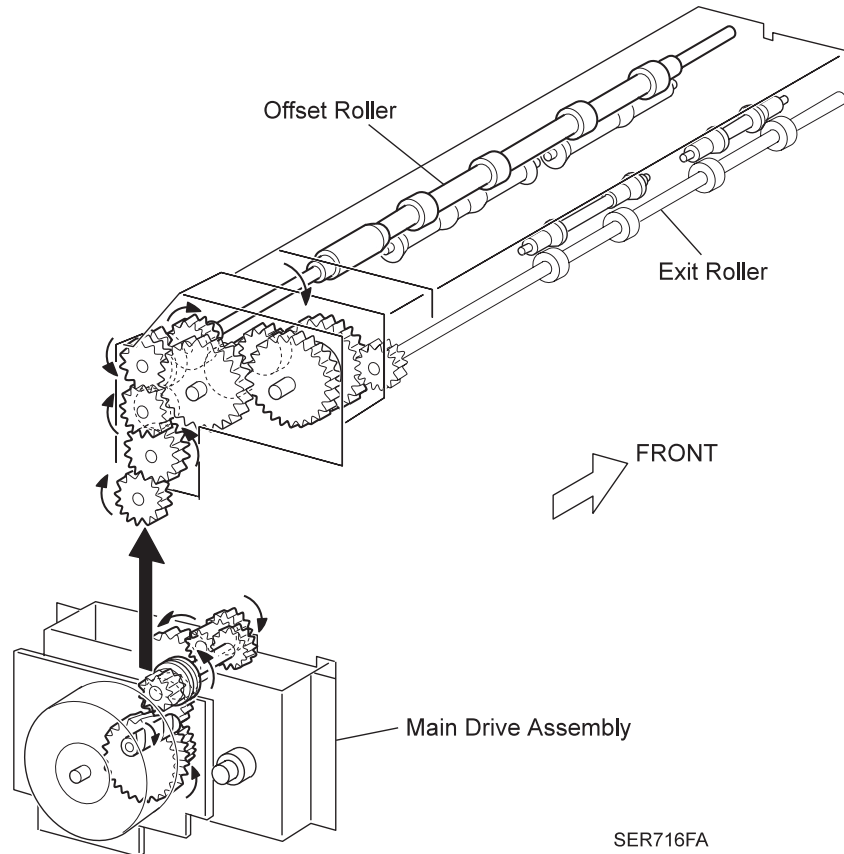
The Main Motor provides mechanical drive for the Offset and Exit Rolls. The Main Drive Assembly transmits drive to the Inverter CW Clutch and to the Inverter CCW Clutch. At a specific point in the print cycle the MCU switches on the CW Clutch. The CW Clutch transmits forward drive to the Offset Roll, which drives the sheet of paper into the Face Down Output Tray. If the printer is running in Duplex Mode, at a specific point in the forward drive, the MCU switches off the CW Clutch and switches on the CCW Clutch. The CCW Clutch transmits reverse drive to the Offset Roll and to the Exit Roll, which drive the paper back across the top of the Fuser Assembly and into the Duplex Module.



SER723FA

Mechanical Drive for Offset

The Offset Motor provides mechanical drive for the Offset Rolls. The Offset Motor transmits drive to the Offset Bracket. If the printer is running in Offset mode, the MCU switches on the Offset Motor. The Motor drives the Offset Bracket toward the front of the printer. The Bracket pushes the Offset Roll along with it. The Offset Rolls drive one sheet of paper into the Face Down Output Tray. The MCU switches the Offset Motor on again, and the Motor drives the Offset Bracket back to the rear of the printer, taking the Offset Roll with it. The Offset Rolls drive the next sheet of paper, slightly offset from the last sheet, into the Face Down Output Tray.



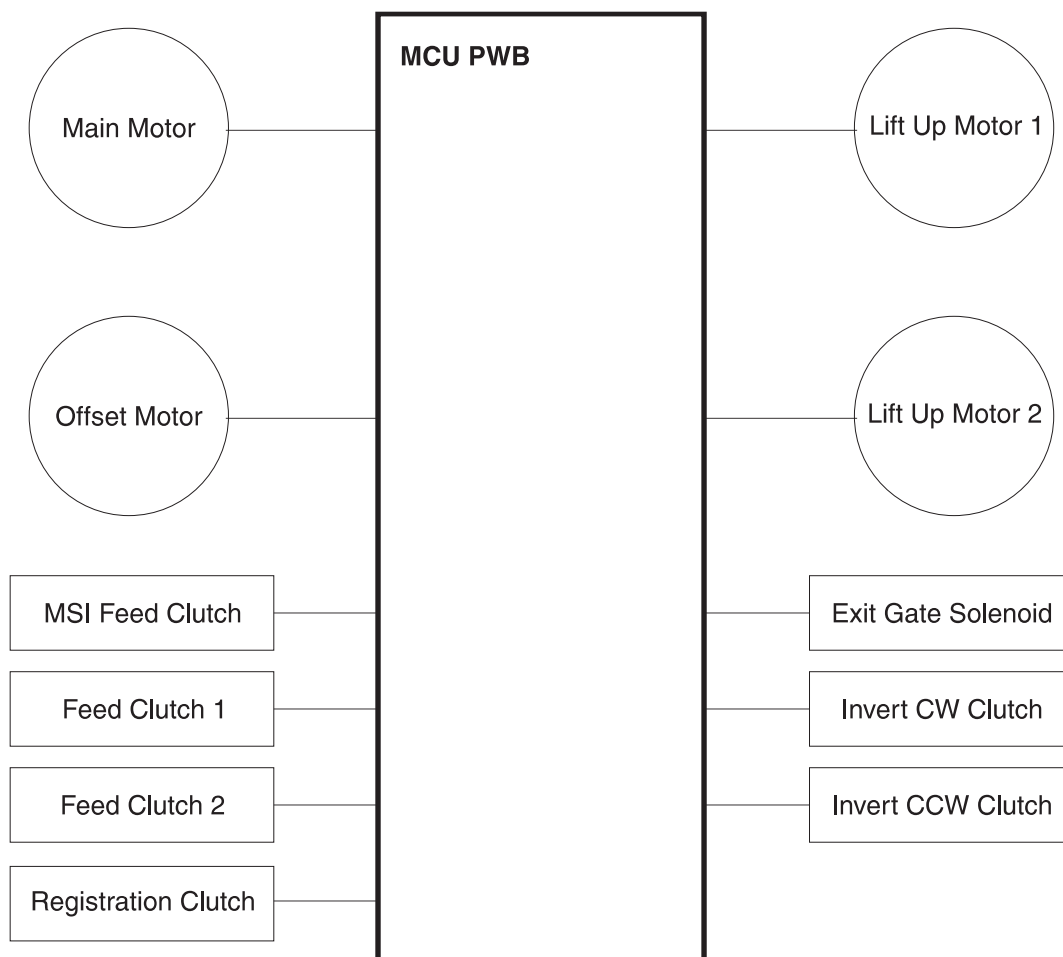
SER716FA

SER716FA

Paper Path Component Control

The logic on the MCU PWB controls the Paper Path components. Sensors along the paper path monitor the movement of each sheet of paper and send information back to the MCU. The MCU provides the timing and data processing necessary to actuate clutches and solenoids, switch motors on and off, and to identify paper jams.

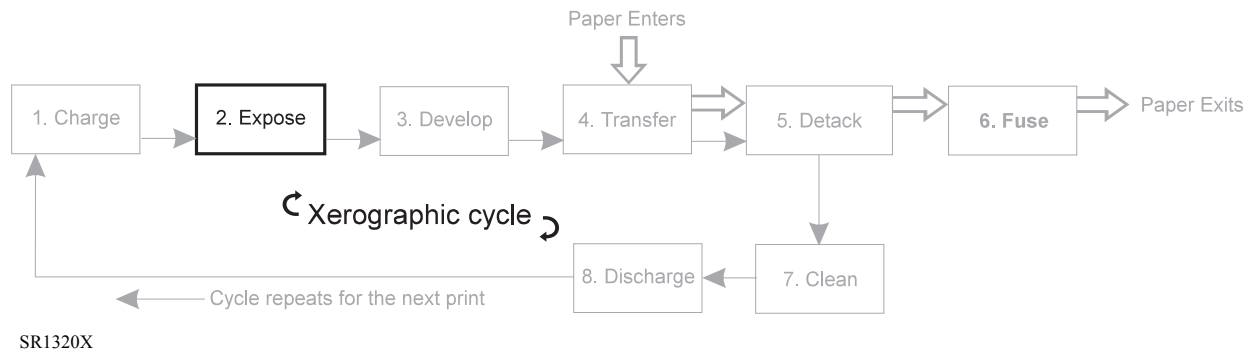
The MCU PWB provides the +24VDC drive signals for the Main Motor, the Offset Motor, and the assortment of clutches and solenoids within the printer. The MCU PWB also provides +5VDC to the paper path sensors.



SR1319XA

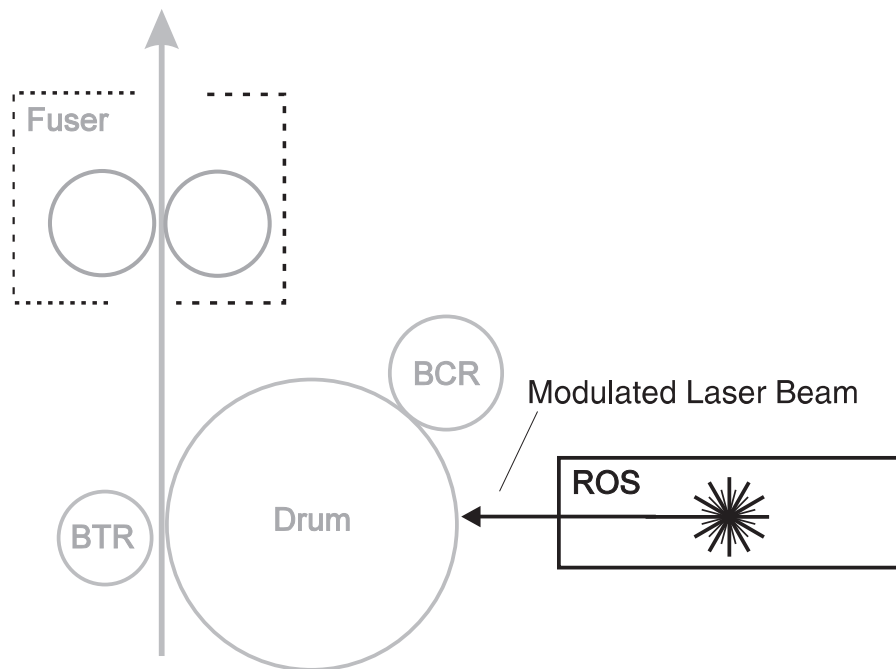
5 - The ROS

The ROS (**R**aster **O**utput **S**canner) is the mechanism that carries out **Step 2. Expose** of the print cycle.



A semiconductor within the ROS Assembly generates a beam of laser light. Image data received from the print controller modulates this beam, turning it on and off according to image information that is received from the host computer.

Through the use of a series of rotating and stationary mirrors within the ROS, the beam sweeps the negative charged drum surface. Whenever the print controller sends a command to print a black pixel, the laser switches on long enough to shine onto the drum at a single pixel point. That point on the drum is now discharged. You will learn more about this process in 6- *Xerographics*.



SR1321X

ROS Components

The 3260/4032 ROS Assembly is made up of one major component housing a number of sub-components.



The ROS generates a laser beam. The laser beam is a very powerful and narrow beam of light that produces extreme heat at its focal point. The laser beam in the 3260/4032 printer is invisible. Although you cannot see the beam, it can still cause severe eye injury. Direct eye exposure to the laser beam may cause blindness. Never place a mirror or a reflective tool or object in the laser beam path. Never run the printer with the covers removed or the ROS interlocks bypassed.

Housed inside the ROS Assembly:

1. Laser Diode Assembly (LD)

A semiconductor Laser Diode that generates a 5 milliwatt class 3B laser beam. Circuitry on the LD PWB maintains the laser output power at a constant level. The LD PWB is electrically connected to the MCU PWB and to the ESS Mother PWB. The MCU provides power and control circuitry. The ESS Mother PWB provides the video data input from the host computer

2. Corrective Lenses and Angled Mirror

Four lenses, two small, one medium, and one wide, and an angled mirror focus the laser beam and direct it toward the Polygon Mirror.

3. Polygon Mirror

A twelve-side rotating mirror that is attached to the Scanner Motor Assembly. The movement of the rotating Polygon Mirror reflects the laser beam in a sweeping motion, from side to side across and through the wide lens.

4. Scanner Motor Assembly

The Scanner Motor Assembly is attached to the Scanner Motor Assembly PWB. The +24VDC Motor rotates at a constant speed. The Scanner Motor Assembly is electrically connected to the MCU.

5. Wide Lens

A lens that focuses the beam coming from the Polygon Mirror and directs it onto the Angled Mirror.

6. Drum Mirror

Angled so it reflects the laser beam coming from the Angled Mirror, down onto the surface of the drum.

7. SOS PWB (Start Of Scan Sensor)

The SOS Sensor is in-line with the laser beam sweep. The laser beam strikes the SOS Sensor at the beginning of each sweep to let the printer control circuitry know that a new scan has started. The SOS PWB is electrically connected to the MCU PWB.

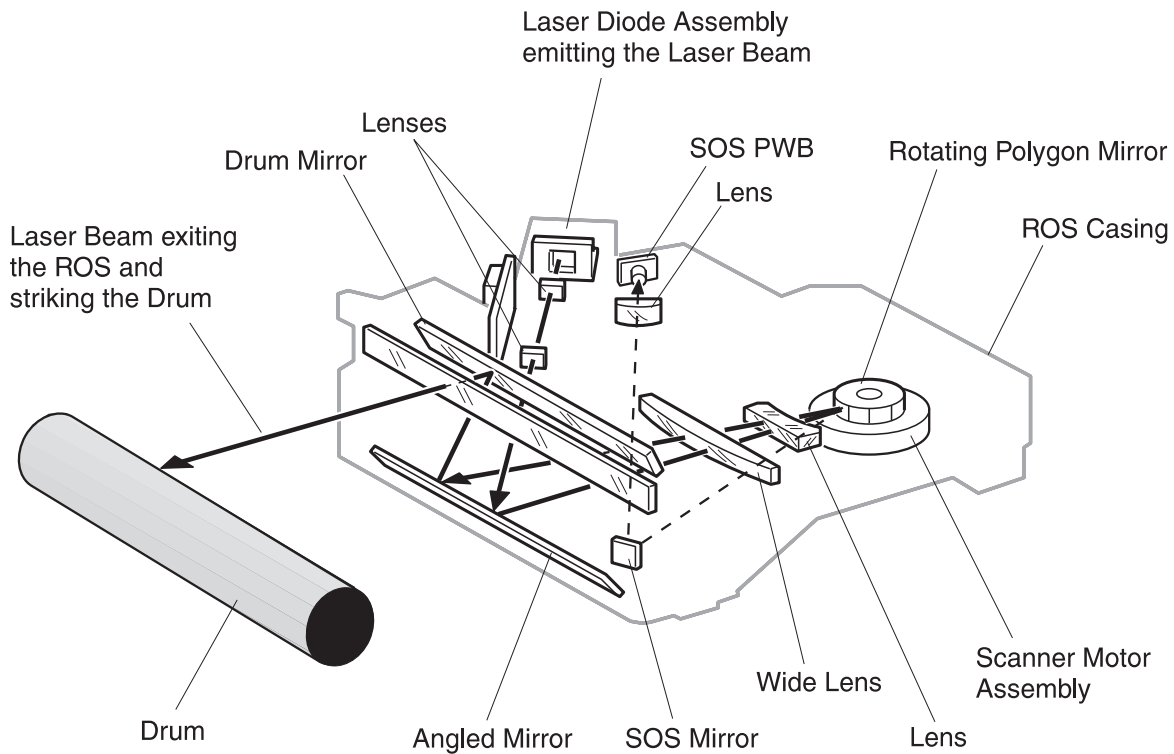
ROS Operation

The MCU PWB supplies +5VDC to drive the Laser Diode semiconductor. The semiconductor uses the +5VDC to generate a 5 milliwatt beam of invisible laser light.

As is characteristic of semiconductor devices, the Laser Diode can switch states very rapidly. A switching circuit on the Laser Diode PWB switches the Laser Diode on and off according to image data sent from the ESS Mother PWB.

Two lenses, an angled mirror, and another two lenses focus the laser beam onto the rotating Polygon Mirror. The Polygon Mirror has twelve mirrored sides and rotates at approximately 15,000 RPM. The Polygon Mirror reflects the laser beam back through the two lenses and onto the Angled Mirror. The movement of the Polygon Mirror reflects the laser beam in a sweeping motion, from side to side, across the Angled Mirror; with one complete sweep for each mirrored side.

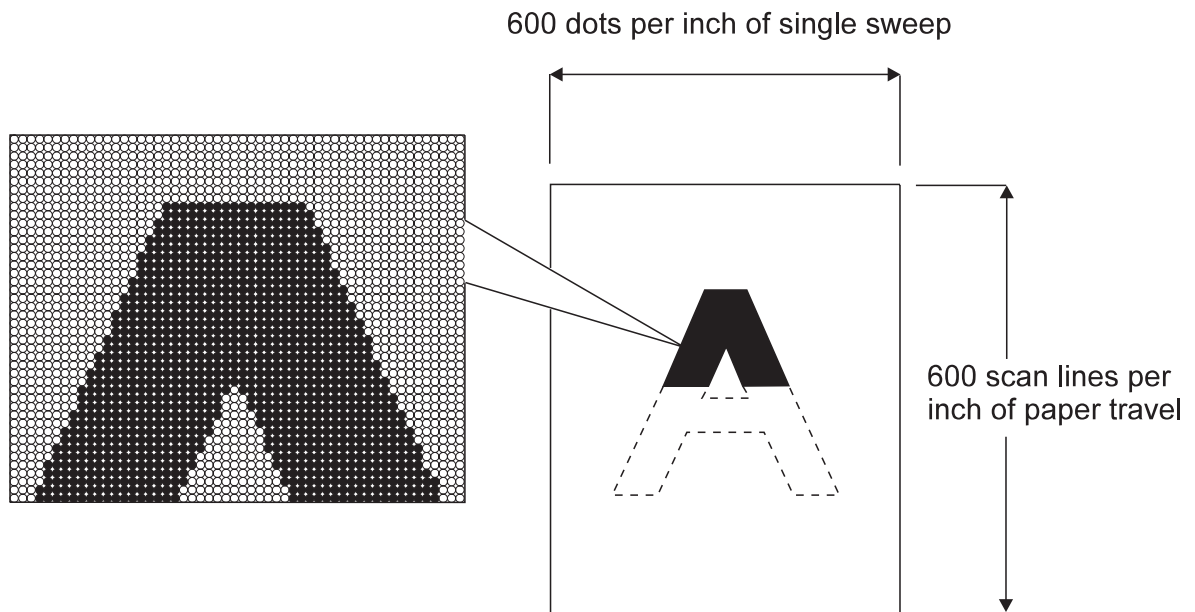
The Angled Mirror reflects the laser beam onto the Drum Mirror. The Drum Mirror is aligned at an angle so the mirror reflects the sweeping beam down onto the surface of the Drum. The combination of the rapid sweeping of the laser beam across the surface of the charged Drum and the rapid switching on and off of the laser beam creates, on the Drum, an invisible electrical image that corresponds to the screen image that was sent from the host computer. Located at one corner of the ROS, near the end of the Angled Mirror is the Start of Scan Sensor (SOS) Mirror. The Start of Scan Sensor is located at the opposite corner of the ROS Assembly. Each sweep of the laser beam begins by striking the SOS Mirror, reflecting the beam into the SOS Lens, which focuses the beam onto the SOS Sensor. The SOS Sensor is electrically connected to the MCU PWB. When the laser beam strikes the Sensor, the Sensor notifies the MCU that a new scan has started.



SR1323X

Image Resolution

The 3260/4032 printer has an print image resolution of 600 dpi (dots per inch). Print image resolution is determined by the number of dots (or pixels) per inch of beam sweep and the number of sweeps per inch of paper travel.



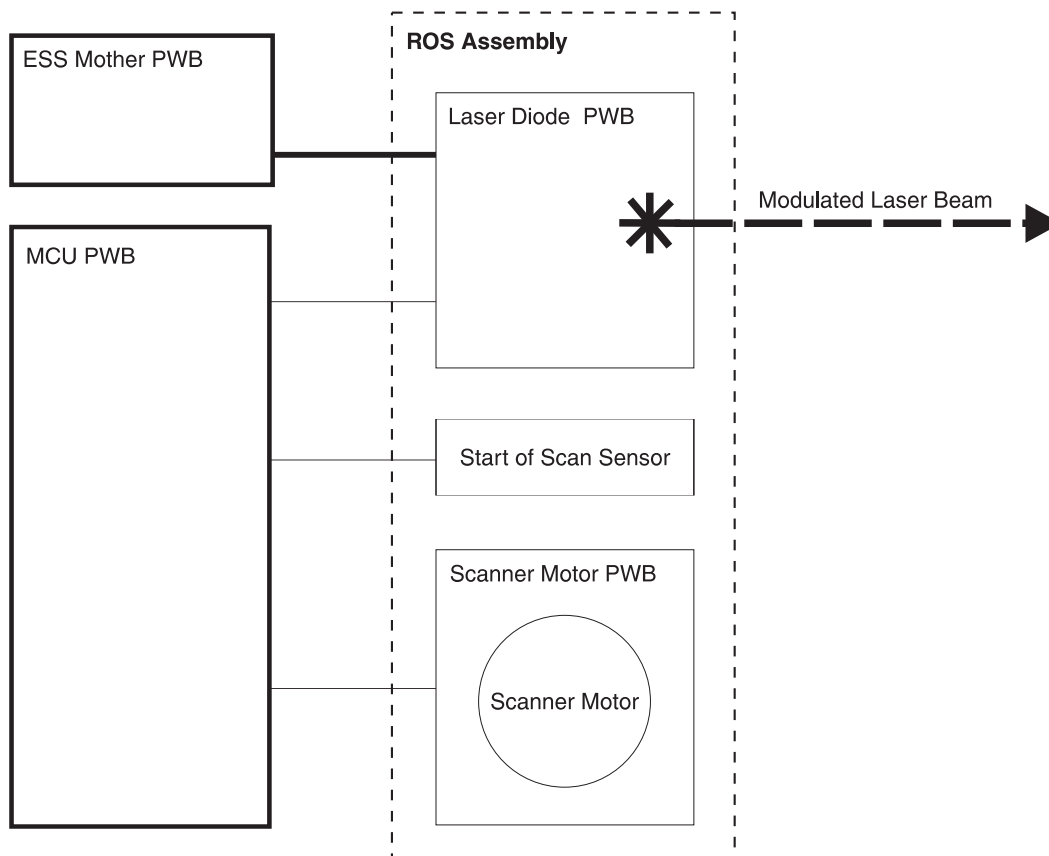
SR1324X

ROS Control

The Laser Diode PWB controls laser power monitoring and adjustment. The MCU PWB controls the rest of the ROS Assembly functions. The Video Controller processes video data sent from a host computer. The Video Controller then passes that data on to the ESS Mother PWB which controls the flow of video data to the Laser Diode PWB. The ESS Mother PWB switches the laser diode on and off according to the image data being sent from the Video Controller. When the data signals for a black pixel, the ESS Mother PWB rapidly switches the Laser Diode on and off.

The MCU PWB provides the +5VDC needed to drive the Laser Diode. The CRU Interlock Switch cuts +5VDC to the Laser Diode when the EP Cartridge is not in place in the printer. The MCU PWB provides the +24VDC needed to run the ROS Motor. The MCU PWB also provides the signal (/RMOT ON) that switches the ROS Motor on and off. To reduce ROS Motor wear, the MCU switches off the ROS Motor after 15 minutes of printer inactivity.

The MCU PWB provides the +5VDC (signal 5V) needed by the SOS Sensor. The Sensor returns information about the start of each scan to the MCU through the /SOS signal.



SR1325XA

Laser Hazards

Lasers generate a very powerful beam of light that produces extreme heat at its focal point. The laser beam that the 3260/4032 ROS generates is invisible. Although you cannot see the laser beam, direct eye contact with the beam will cause serious eye injury.



Always follow the laser service rules and use good judgement when working on the 3260/4032 printer.

ROS Safeguards

There are two safety interlocks built into the CRU cavity.

A molded tab located at the end of the EP Cartridge actuates **Interlock SW1** which, along with **SW2** (the Left Cover Interlock), controls +24VDC out of the MCU PWB. When the Left Cover is open or the EP Cartridge is removed, SW1 and SW2 cut +24VDC out of the MCU PWB.

An electrical jack at the end of the EP Cartridge completes the +5VDC circuit for **CRU Interlock** switches **SW1** and **SW2**. When the EP Cartridge is removed, +5VDC to the Laser Diode is cut.

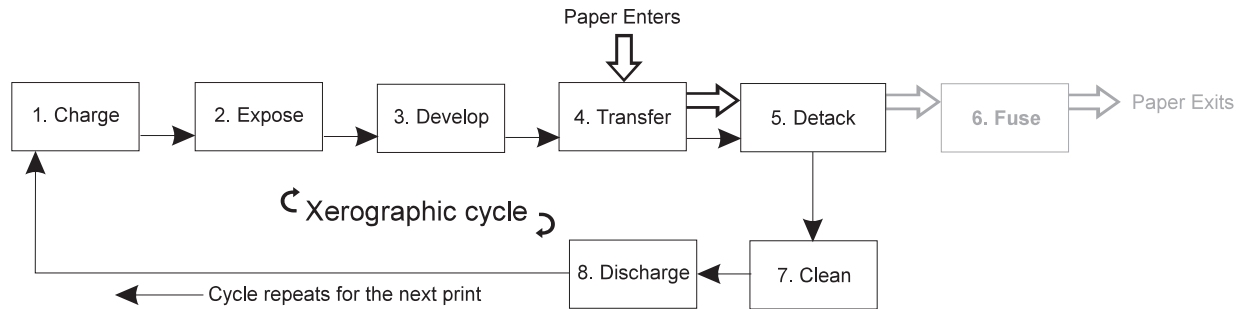


Never run the printer with the covers open or removed, the Main Interlock Switch actuated, and the CRU Interlock Switches bypassed. Direct eye exposure to the laser beam may cause serious eye injury or blindness.

6 - Xerographics

Xerographics and the Print Cycle

Xerographics within the 3260/4032 printer is represented by steps 1 through 5, and steps 7 and 8 of the print cycle.



SR1326X

The seven Xerographic steps (Step 6 Fuse is not part of the Xerographic cycle) in the print cycle are:

1. Charge

Places a uniform negative electrostatic charge on the surface of the drum.

2. Expose

A data modulated laser beam scans the drum surface, converting select negative points to positive points.

3. Develop

Attaches dry toner to the positive points of the drum.

4. Transfer

Transfers the dry toner image from the drum to a piece of paper.

5. Detack

Strips the piece of paper, along with the dry toner image on the paper surface, from the drum.

6. Clean

Cleans any residual toner from the surface of the drum and prepares the drum for the next print cycle.

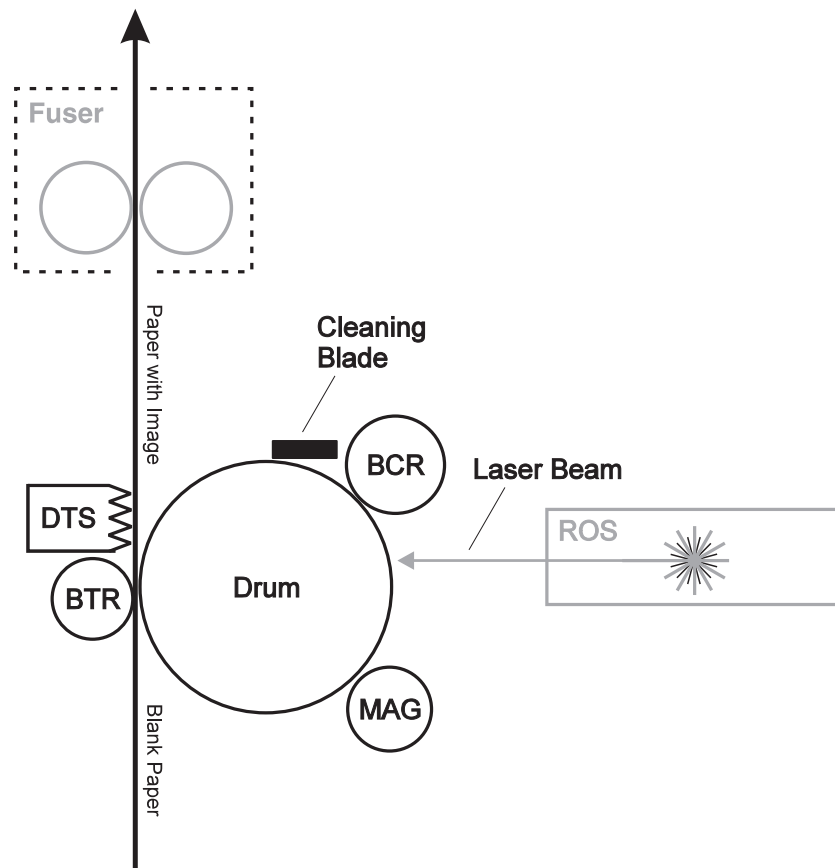
7. Discharge

Cleans any residual electrical charge from the surface of the drum and prepares the drum for the next print cycle.

An Overview of Xerographics

Xerography is the process of using an electrically charged surface and a dry, powdered ink to create an image on a sheet of plain paper. Xerography, in some form, is used in most of today's copiers and laser printers. The 3260/4032 printer uses a number of components and AC and DC voltages in its xerographic process.

The surface of the **Drum** is made of a photoconductive material that retains an electrical charge as long as the material is not exposed to light. Exposure to light discharges the electrical charge. At the start of each print cycle the **BCR** (Bias Charge Roll) places a uniform electrical charge on the surface of the Drum. The modulated **Laser Beam** shines light onto the surface of the drum, discharging select areas, thus creating an invisible **latent image**. The latent image is made up of a pattern of negative and positive charges. The **Magnet Roll** applies dry toner to the latent image to create a visible **developed image**. A sheet of paper passes between the Drum and the **BTR** (Bias Transfer Roll) where the developed image on the drum is transferred to the paper. The **DTS** (Detack Saw) applies a voltage to the back of the paper to remove it from the Drum. The sheet of paper, now with a toner image on the surface, moves out of the Xerographic area and on to the Fuser. The **Cleaning Blade** scrapes any residual toner left on the Drum after transfer and deposits it in a sealed reservoir that is located inside the EP Cartridge.



SR1327X

Xerographic Components

Xerographics in the 3260/4032 printer is made up of ten major components. Six of those components are housed inside the EP Cartridge. The EP Cartridge is a sealed unit that contains no field replaceable parts. The EP Cartridge is a CRU (Customer Replaceable Unit) with an estimated life of 23,000 prints; assuming 5% image coverage of a standard sheet of A4 paper.

Attached to the Transport Chute:

1. BTR (Bias Transfer Roll)

The BTR transfers the toner image from the drum to the sheet of paper. The BTR rotates during the print cycle.

2. DTS (Detack Saw)

The DTS helps strip the sheet of paper off of the Drum.

Support components:

3. Toner Sensor

The Toner Sensor is a magnetic sensor that monitors the level of toner remaining inside the EP Cartridge. The Toner Sensor is attached to the printer frame, inside the EP Cartridge cavity, and is electrically connected to the MCU PWB.

4. High Voltage Power Supply PWB

Supplies all of the voltages used by the Xerographic components.

Housed inside the EP Cartridge:**5. Drum**

The Drum is a hollow aluminum cylinder that has a surface coating of a photoconductive material. The Drum rotates during the print cycle.

6. Bias Charge Roll (BCR)

The BCR places a uniform DC electrical charge on the surface of the drum. At the end of a print cycle, the BCR applies an AC voltage to the surface of the drum to neutralize any electrical patterns remaining from the previous print cycle. The BCR rotates during the print cycle.

7. Magnet Roll

The Magnet Roll collects toner from the toner reservoir and distributes it to the drum. The Magnet Roll rotates during the print cycle.

8. Charge Metal Blade (CM Blade)

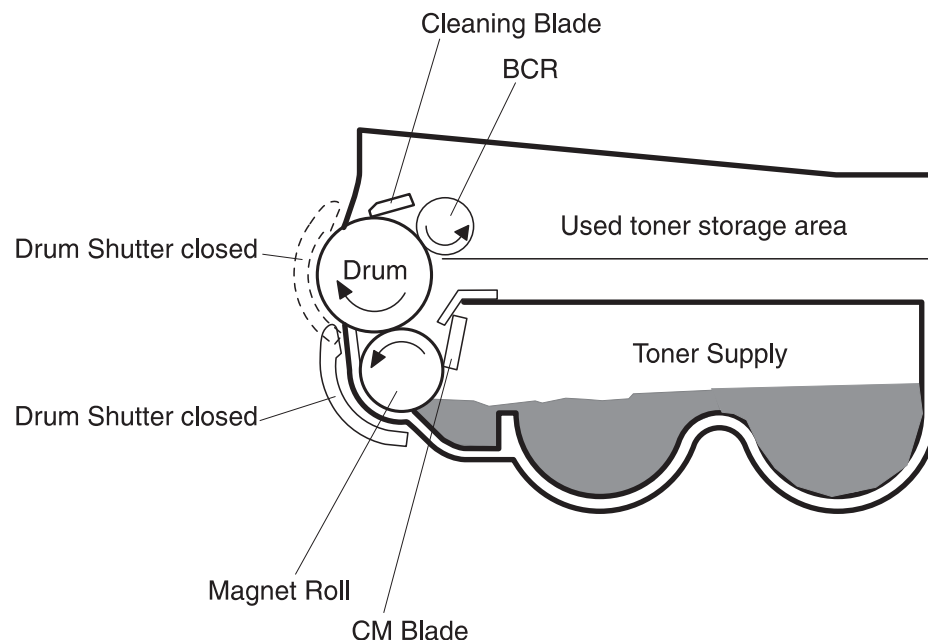
The CM Blade spreads an even coating of toner across the Magnet Roll. The CM Blade also gives the Roll a static-electric charge.

9. Cleaning Blade

The Cleaning Blade rides the surface of the rotating drum, removing any residual toner left from the previous print cycle.

10. Drum Shutter

The Drum Shutter protects the drum from damage by light or contamination. When the EP Cartridge is in the printer and the Left Upper Cover is closed, the Drum Shutter opens to expose the drum surface. When the EP Cartridge is out of the printer or the Left Upper Cover is open, the Drum Shutter closes.



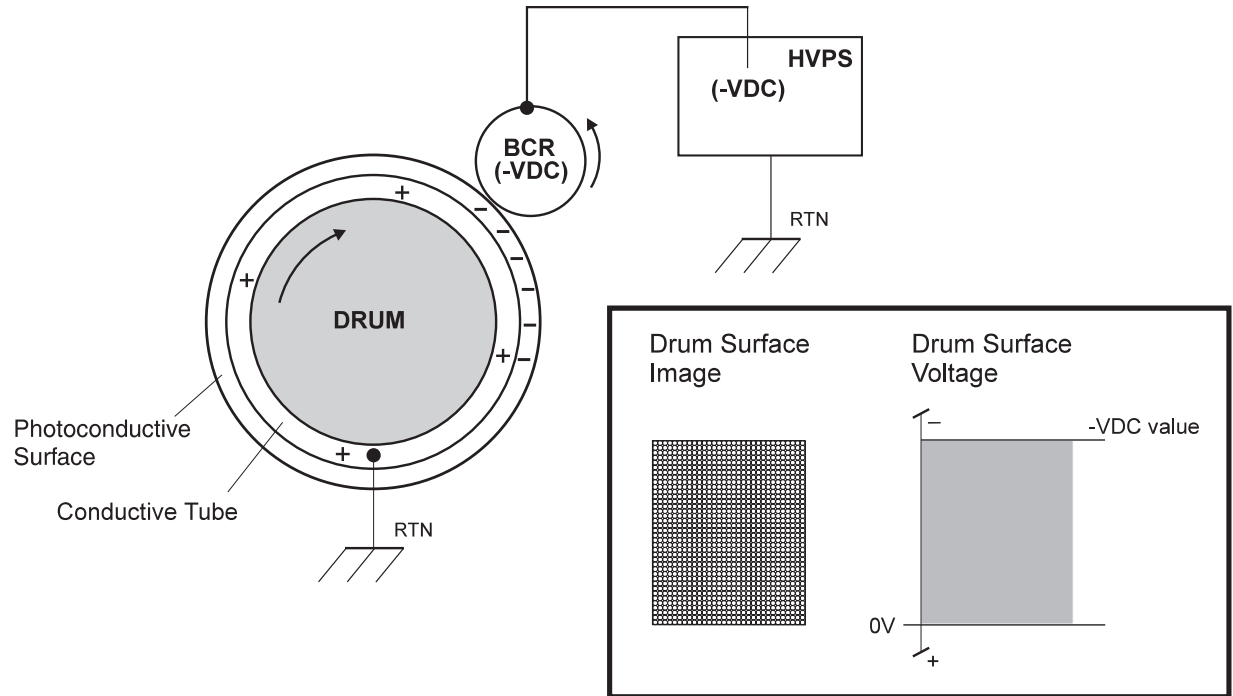
SR1353X

The Xerographic Process During a Print Cycle

1. Charge

The Bias Charge Roll (BCR) places a uniform negative electrostatic charge on the surface of the drum. The drum surface is made of a photoconductive material that holds an electrical charge as long as the drum remains in darkness. Light striking the drum discharges the surface charge.

The BCR is a conductive roll that is positioned slightly above the surface of the drum. The HVPS supplies the BCR with two voltages; a negative DC charge voltage and an AC discharge voltage that is used for electrically cleaning the drum (discussed in *Step 7. Clean*).



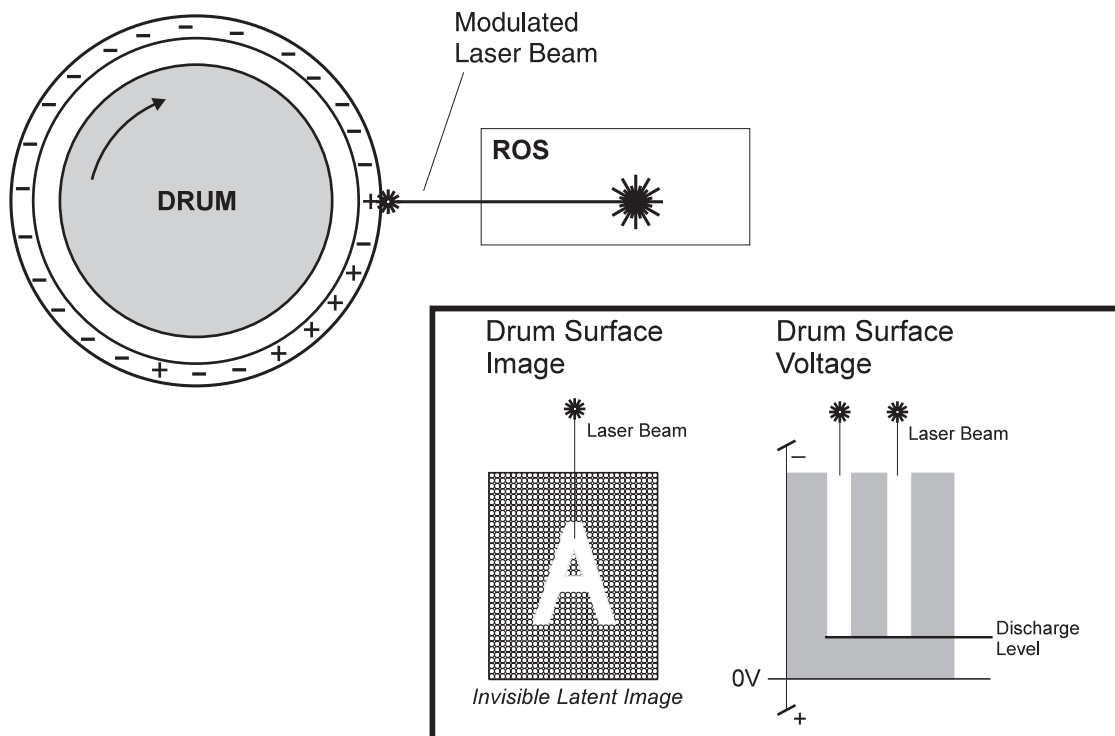
SR1328XA

2. Expose

The Raster Output Scanner (ROS) generates a beam of laser light. Image data received from the print controller modulates this beam, turning it on and off according to image information that is received from the host computer and software.

Through the use of a series of rotating and stationary mirrors within the ROS, the beam scans the negative charged drum surface. Whenever the print controller sends a command to print a black pixel, the laser switches on long enough to shine onto the drum at a single pixel point. That point is now discharged and slightly less negative than the surrounding negative charge. For the sake of simplicity, the less negative areas are considered "positive". This discharge/no discharge process creates an invisible, electrostatic image on the surface of the drum. This image is called a *latent* image.

The ROS also helps to clean and prepare the drum by scanning the surface of the drum at the beginning of each individual printer cycle. This action discharges an residual DC charge that may still remain on the Drum from the last print cycle.



SR1329X

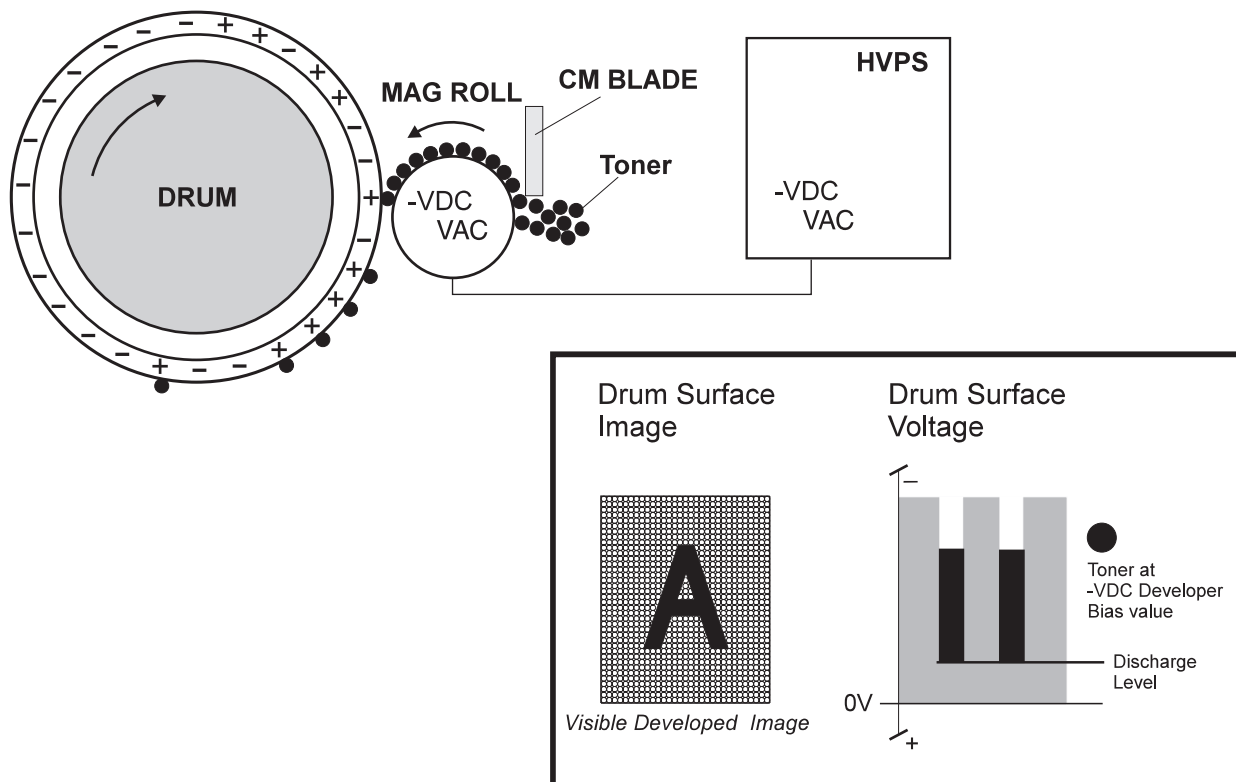
3. Develop

The toner contained within the EP Cartridge has a slight magnetic property that causes it to adhere to the Magnetic Roll. The Charge Metering Blade (CM Blade) spreads the toner into a very thin layer on the Magnetic Roll. Friction between the Magnetic Roll and the CM Blade generates a small electrical charge that is transferred to the toner.

The surface of the Magnetic Roll is made up of a thin sheet of conductive material. The HVPS supplies the Magnetic Roll with two voltages; a DC voltage and an AC voltage. The DC voltage is used to transfer toner from the Magnetic Roll to the surface of the drum. The AC voltage agitates the toner on the Magnetic Roll, making toner transfer easier.

The Magnetic Roll maintains a negative DC electrical potential. Negative charged areas of the drum have a lower electrical potential, or higher relative negative value than the Magnetic Roll. Discharged areas of the drum have a higher electrical potential, or lower relative negative value, than the Magnetic Roll. A discharged point on the surface of the drum now appears less negative, or positive, in relation to the negative charge on the Magnetic Roll.

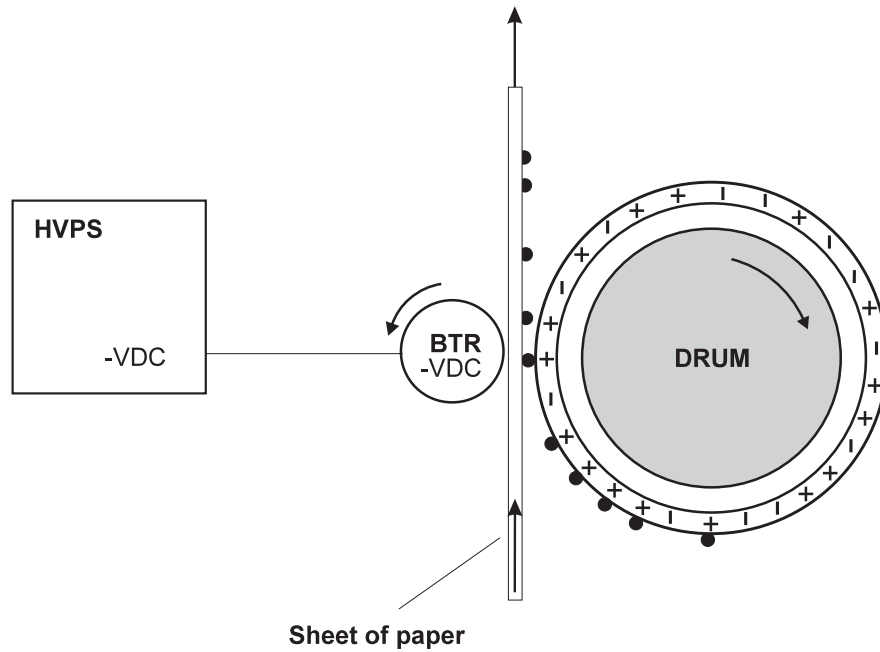
The toner adhering to the Magnet Roll is always in contact with the drum surface. When a less negative point on the drum (a discharged area) comes in contact with the more negative charged toner on the Magnet Roll, toner transfers from the Magnet Roll to that point on the drum. There is now a visible toner image on the drum surface. The image is called a *developed* image.



SR1330XA

4. Transfer

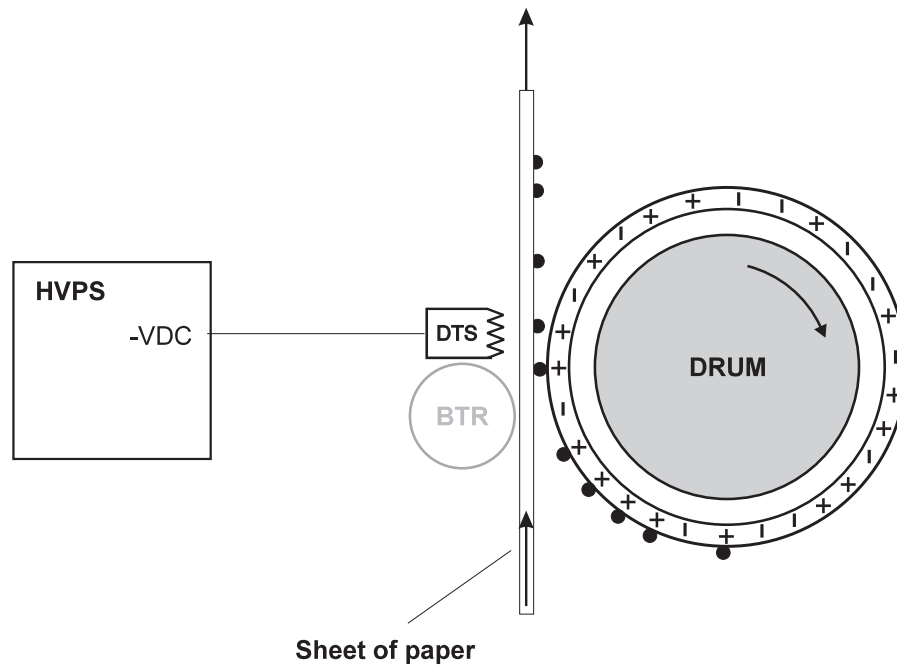
As the paper travels between the BTR and the drum surface, the Bias Transfer Roll (BTR) applies a positive charge to the back of the printing paper. This positive charge transfers the negative charged toner image from the drum surface to the top surface of the paper. The toner image is now on the paper and the paper is now stuck to the drum surface, due to the relative electrical differences between the negative electrical charge of the inner conductive layer of the drum and the positive electrical charge of the paper.



SR1331X

5. Detack

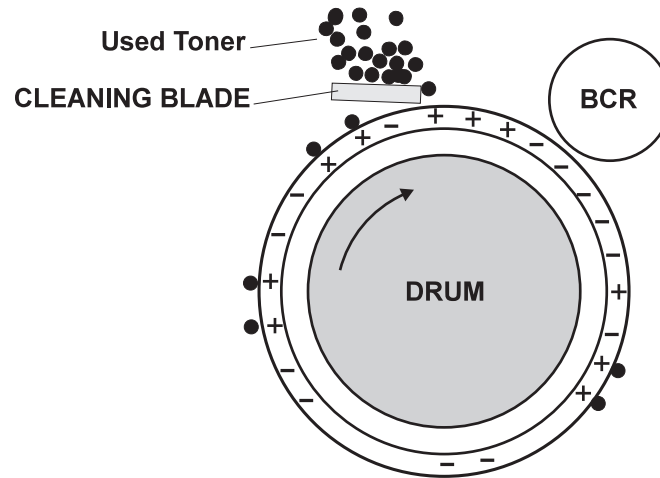
After the toner image transfers to the surface of the paper, the Detack Saw (a thin strip of metal that resembles a saw blade) applies a low voltage negative charge to the back of the paper to neutralize the positive voltage that was applied to it by the BTR. Once the positive voltage is neutralized, the paper strips releases easily from the drum surface and continues along the paper path to the Fuser.



SR1332X

7. Clean

The Cleaning Blade removes any toner that remains on the drum after the transfer process. The toner that the Cleaning Blade removes is collected inside the sealed EP Cartridge. Toner that is reclaimed from the drum is not reused by the EP Cartridge.

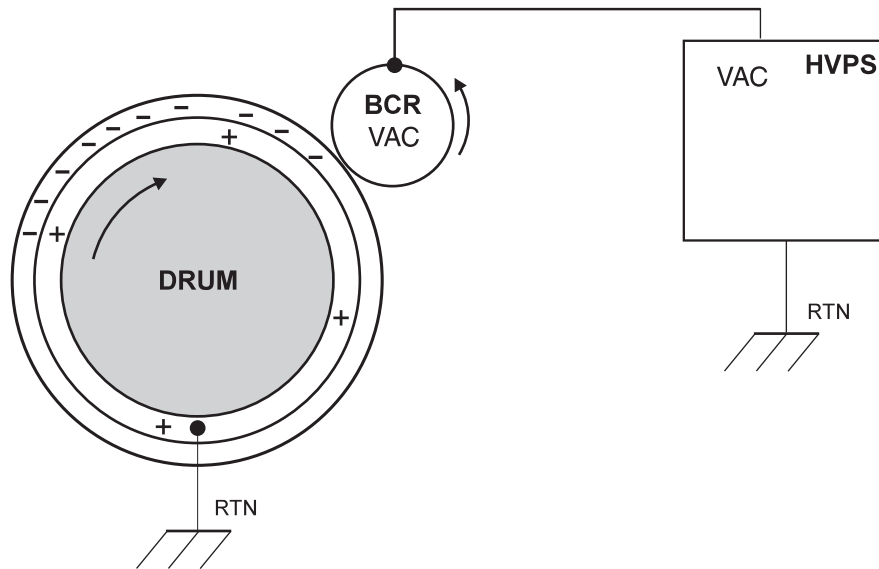


SR1334X

8. Discharge

At both the start and the end of each individual printer cycle the HVPS supplies the BCR with an AC voltage that is used to electrically clean the drum. The AC voltage removes any residual DC charge that was left from the previous print cycle.

At the beginning of each individual printer cycle the ROS scans the surface of the drum, further discharging any residual DC charge that may be left on the drum.



SR1335X

Mechanical Drive for Xerographics

The Main Drive Motor and the Main Drive Assembly provide the mechanical drive for the Drum and the BTR.



SR1336X

The mechanical energy created by the Main Drive Motor is transmitted through the Main Drive Assembly to a drive pin that is located at the rear of the Assembly. When the EP Cartridge is in place, the Drum engages the pin. A gear attached to the end of the Drum drives the BTR.

Xerographic Control

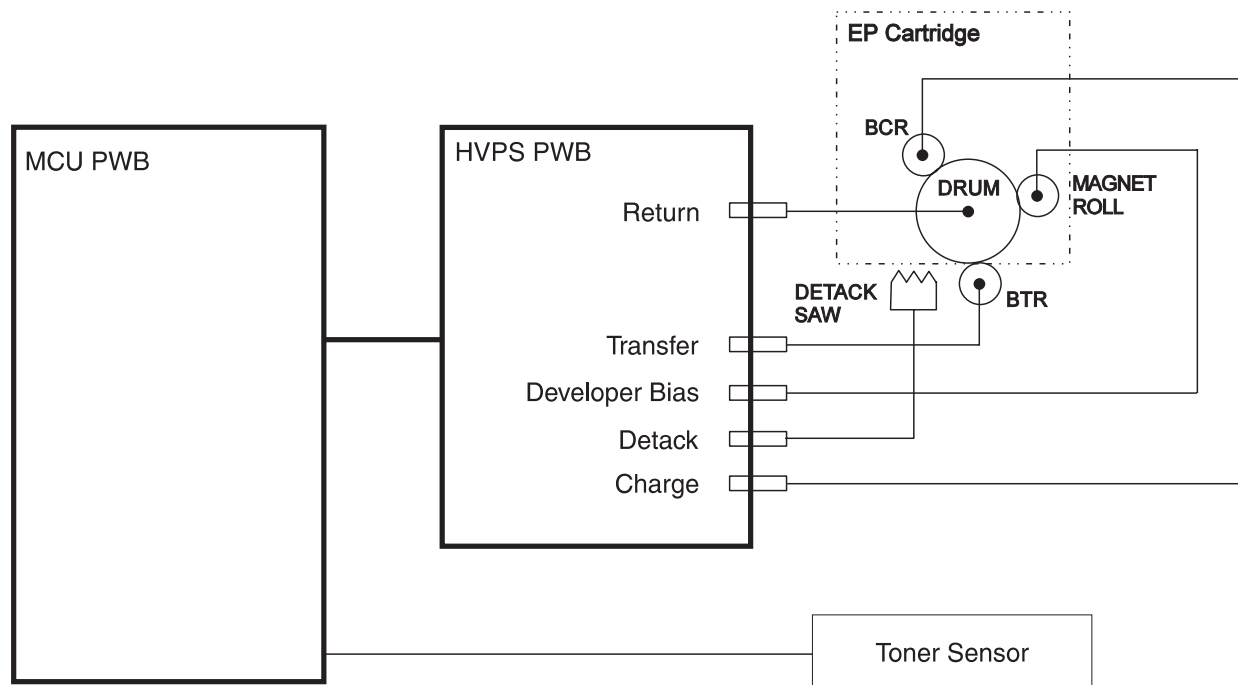
The logic on the MCU PWB controls all Xerographic functions. The High Voltage Power Supply (HVPS) provides all of the Xerographic voltages.

HVPS

The MCU PWB supplies +24VDC to the HVPS. The HVPS converts the +24VDC to the Xerographic voltages. The HVPS provides CR (Charge Voltages), DB (Developer Bias Voltages), TR (Transfer Voltage), DTS (Detack Saw Voltage), and RTN (Return). The logic on the MCU PWB uses a number of signals to the HVPS to switch on the various Xerographic components.

Toner Sensor

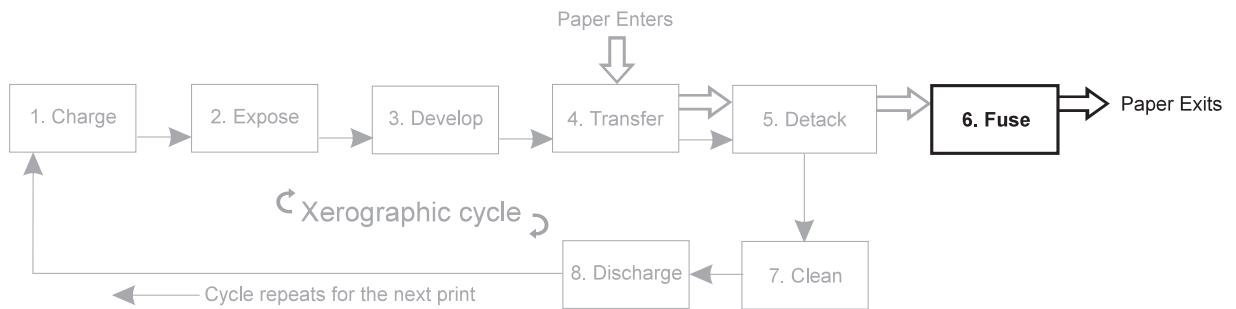
The Toner Sensor is electrically connected to the MCU PWB through P/J127. The logic on the MCU PWB uses the NO TONER signal to monitor the level of unused toner inside the EP Cartridge. When the NO TONER signal goes low, the MCU PWB logic waits for ten additional print cycles to complete, then it generates a ***J6-1: Replace the EP Cartridge*** error message.



SR1337XA

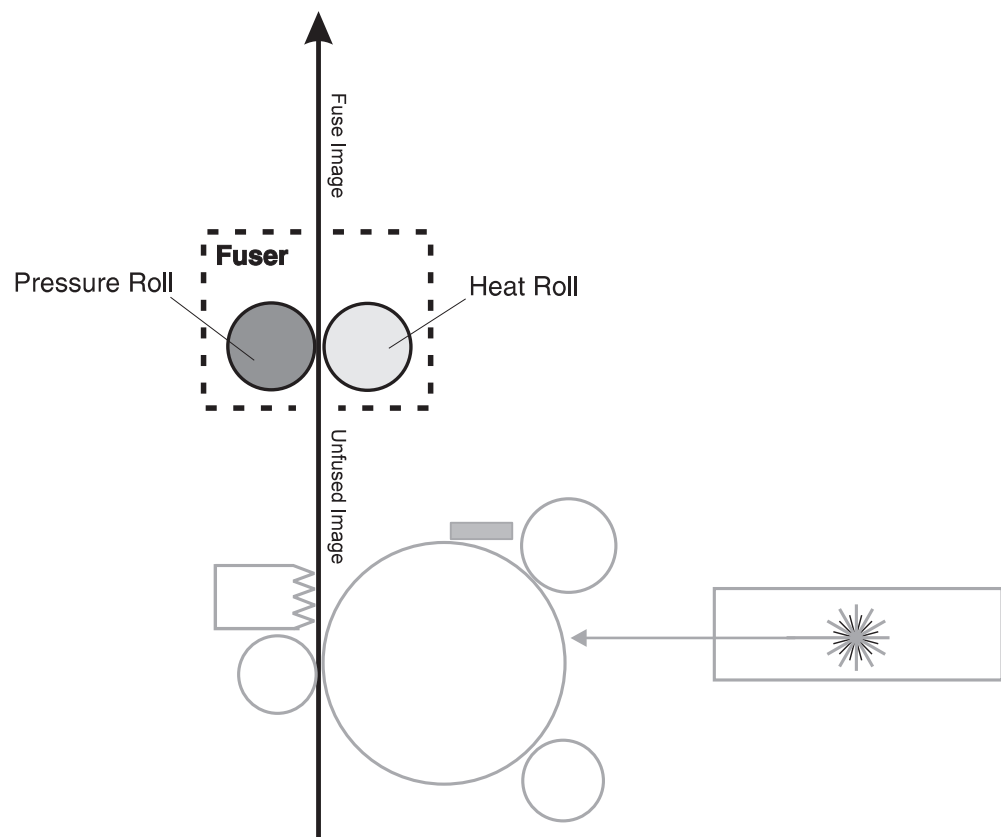
7 - Fusing

Image fusing is the sixth step of the print cycle.



SR1338X

When a sheet of paper leaves the transfer area, static electricity holds the unfused toner image to the surface of the paper. After transfer, the paper moves to the Fuser where it passes between the **Heat Roll** and the **Pressure Roll**. The combination of heat and pressure melts the toner image and bonds it permanently to the paper. The fused sheet of paper is then transported to the output tray.



SR1339X

Fuser Components

The Fuser Assembly is made up of seven major components:



The Fuser can be extremely hot. Be careful when working with or around the Fuser Assembly. Switch off the printer and wait until the Fuser has cooled before attempting to remove or disassemble it.

1. Heat Rod 1 (Main)

Heat Rod 1 is a quartz lamp that is suspended inside the Heat Roll. When the AC Drive switches AC voltage to Heat Rod 1, the Rod heats up and in turn heats up the Heat Roll.

2. Heat Rod 2 (Sub)

Heat Rod 2 is a quartz lamp that is suspended inside the Heat Roll. When the AC Drive switches AC voltage to Heat Rod 2, the Rod heats up and in turn heats up the Heat Roll. Heat Rod 2 switches on during a print cycle.

3. The Heat Roll

The Heat Roll is a hollow aluminum tube that is coated with a non-stick surface. The Heat Rod heats the Heat Roll to a temperature sufficient enough to melt dry toner. There is a drive gear attached to one end of the Heat Roll. The Heat Roll rotates against the Pressure Roll.

4. The Pressure Roll

The Pressure Roll is a metal shaft that is surrounded by a hard rubber roll. The ends of the shaft rest in spring-loaded bearings. The Heat Roll presses against the Pressure Roll. During the fusing step, paper passes between the rotating Heat Roll and the rotating Pressure Roll.

5. The Temperature Sensor

The Temperature Sensor is a heat sensitive resistor [STS] that gently rides on the surface of the Heat Roll. The Temperature Sensor monitors the surface temperature of the Heat Rod and sends information back to the AC Drive PWB and on to the MCU PWB. According to the temperature information received, the MCU PWB either switches on or switches off the Heat Rod.

If the Fuser begins to overheat, the Temperature Sensor functions as the first-stage overheat protection; signaling the MCU PWB to cut all AC power to the Heat Rod.

6. The Fuser Fuse

The Fuser Fuse is connected in series with the Heat Rod AC circuit. The Fuse functions as the second-stage overheat protection. If the Temperature Sensor fails to shutdown AC power to the Fuser, at a specific temperature the Fuse opens the AC circuit between the Power Supply and the Heat Rod.

7. The Fuser Thermostat

The Fuser Thermostat is connected in series with the Heat Rod AC circuit. The Thermostat functions as the third-stage overheat protection. If the Fuser Fuse fails to shutdown AC power to the Fuser, at a specific temperature the Fuser Thermostat opens the AC circuit between the Power Supply and the Heat Rod.

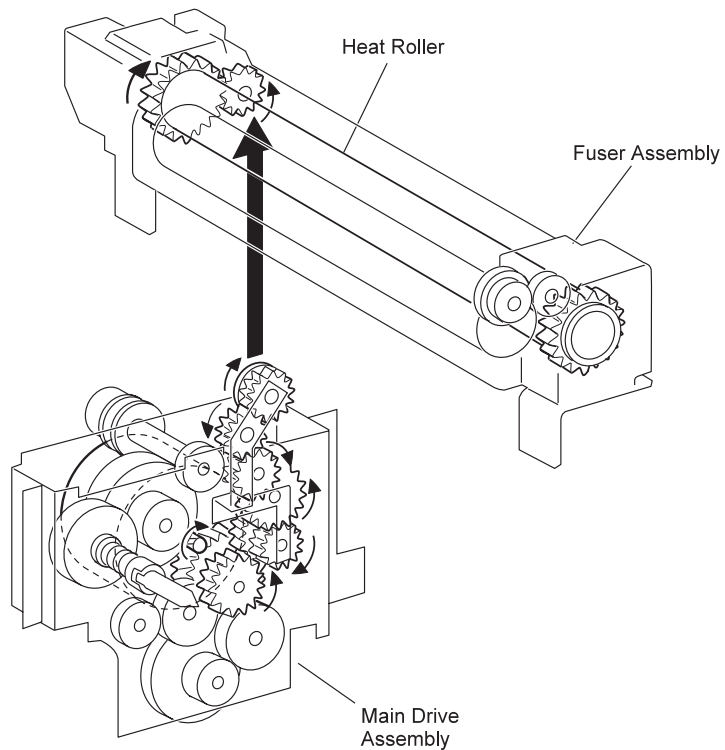
Mechanical Drive for the Fuser Assembly

The Main Drive Motor, the Main Drive Assembly, and the Fuser Drive Assembly provide the mechanical drive for the Fuser Assembly.



SR1340X

The Main Drive Assembly transmits drive to the Fuser Drive Gear.

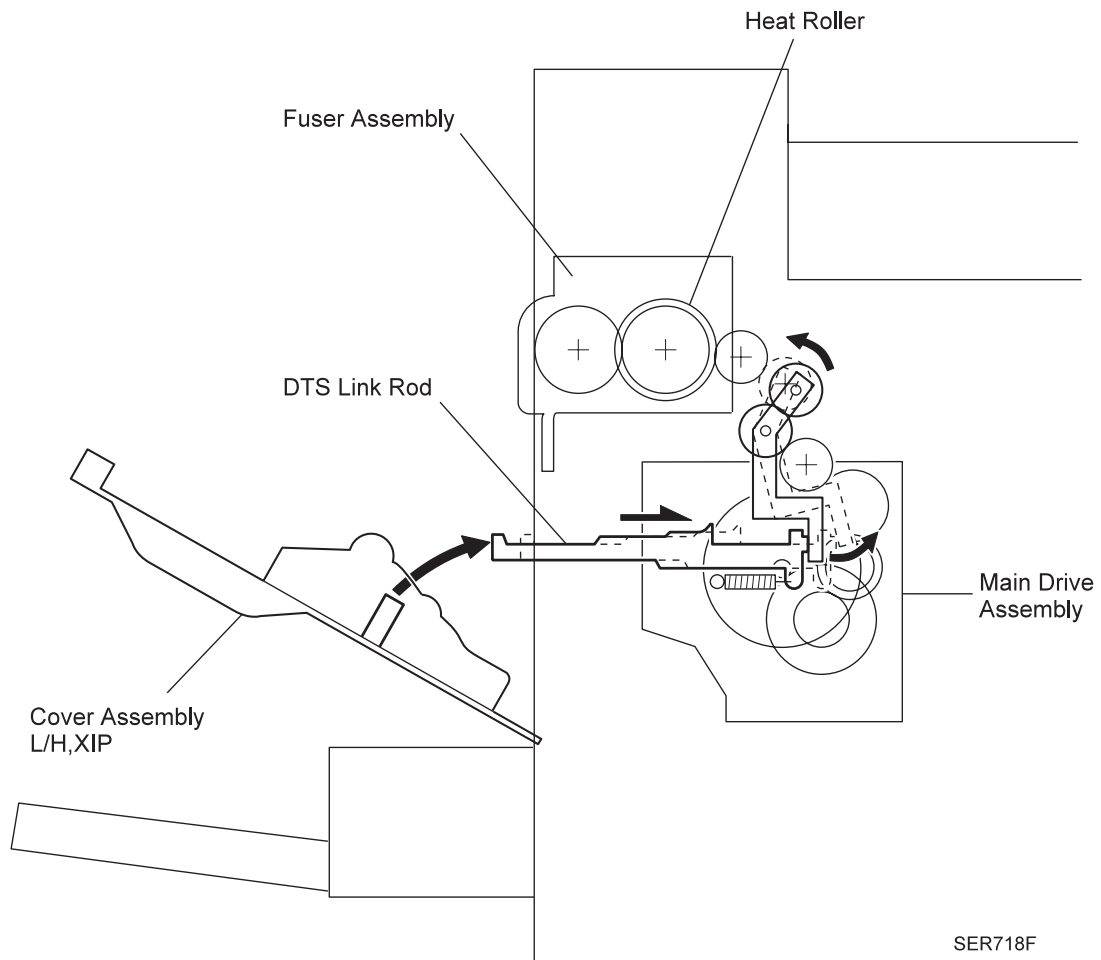


SER715F

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Principles of Operation

When the Left Upper Cover is closed, the DTS Link Rod pushes the Fuser Drive Assembly into contact with the Fuser Drive Gear, which transmits drive to the Heat Roll Gear. The Heat Roll rotates and transmits drive through a Pressure Roll Gear to the Pressure Roll.



SER718F

Fuser Control

Logic circuits on the MCU PWB and relays on the AC Drive PWB control all Fuser functions.

Temperature Sensor

The Temperature Sensor monitors the surface temperature of the Heat Roll and sends information back to the MCU PWB. According to the temperature information received, the MCU PWB commands the AC Driver PWB to either switch on or switch off the Heat Rods. The Temperature Sensor is marked STS on the circuit schematic.

Heat Rod Main

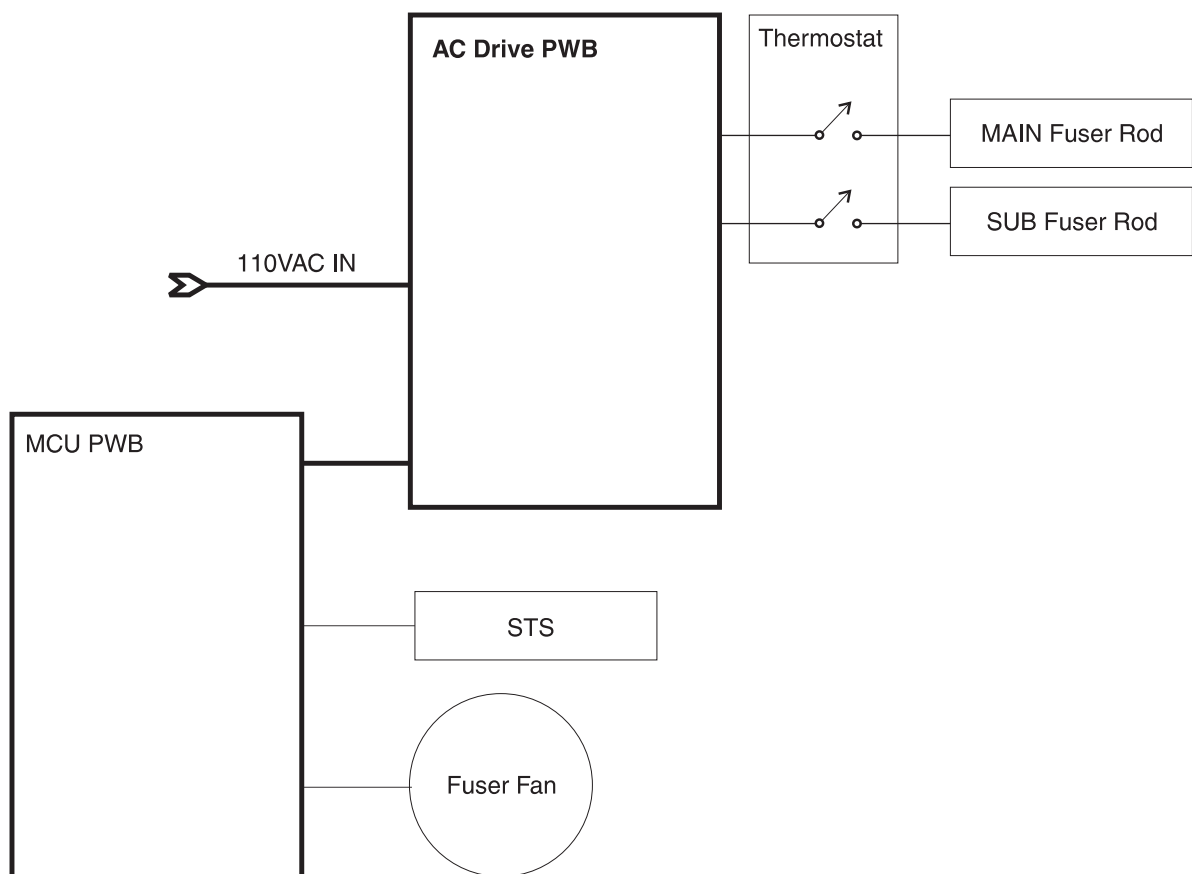
Logic on the MCU uses the /MAIN HEAT signal the AC Drive to apply 110VC to switch on the Main Heat Rod.

Heat Rod Sub

Logic on the MCU uses the /SUB HEAT signal the AC Drive to apply 110VC to switch on the Sub Heat Rod.

Fuser Fan

The MCU PWB controls the Fuser Fan and the alarm signal that indicates the Fan is not rotating.



SR1341XA

Section 14 - Wiring Diagrams and Signal Information**Contents**

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This section of the manual contains a Master Wiring Diagram for the 3260/4032 printer. The Master Wiring Diagram shows the interconnections of the major subsystems within the printer. The remainder of this section divides the Master Wiring Diagram into thirteen individual block diagrams (BD) to better illustrate the electrical relationships between components and assemblies within the printer. Each wire in the diagrams is tagged with a signal name, and each wire is terminated at both ends with a pin number.

Wiring Diagram Notations

The wiring diagrams presented in this manual use the following circuit notations to describe components and signal paths within the printer.

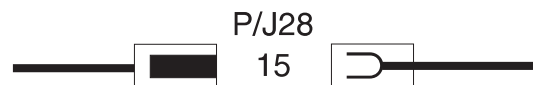
A PLUG



A JACK



CONNECTION OF PIN 15 OF CONNECTORS P28 AND J28.



THE SIGNAL NAME OF A WIRE



THE VOLTAGE MEASURED WITH THE NEGATIVE PROBE OF THE METER ON SG



THE VOLTAGE VALUE OF A SIGNAL



/ = The voltage goes LOW when the signal is ON.

In this case, the HEAT signal is ON, so the normal voltage of 4.2VDC drops to 0VDC.

SR1400X

SG SIGNAL GROUND

FG FRAME GROUND

RTN RETURN

There is continuity between SG and RTN. Continuity between FG and SG depends on circuit specifications.

\$ \$ in a signal name indicates the signal is coming from the MCU CPU.

in a signal name indicates the signal is going to the MCU CPU.

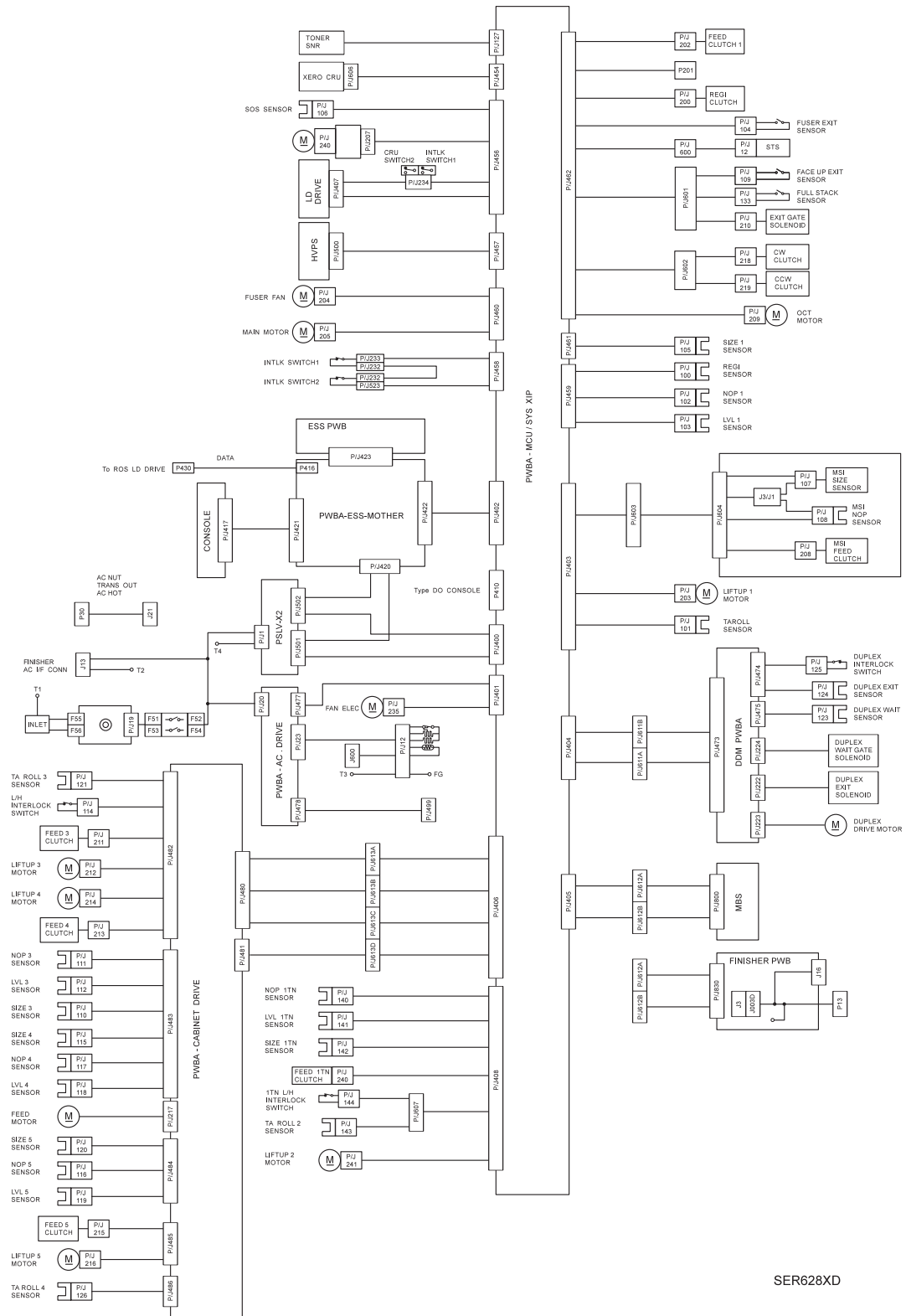
TTL TTL displayed in the HIGH level or LOW level columns of the signal tables indicate the signal is ECL_CMOS compatible.

HIGH is 4 to 5 VDC

LOW is 0 to 0.8 VDC

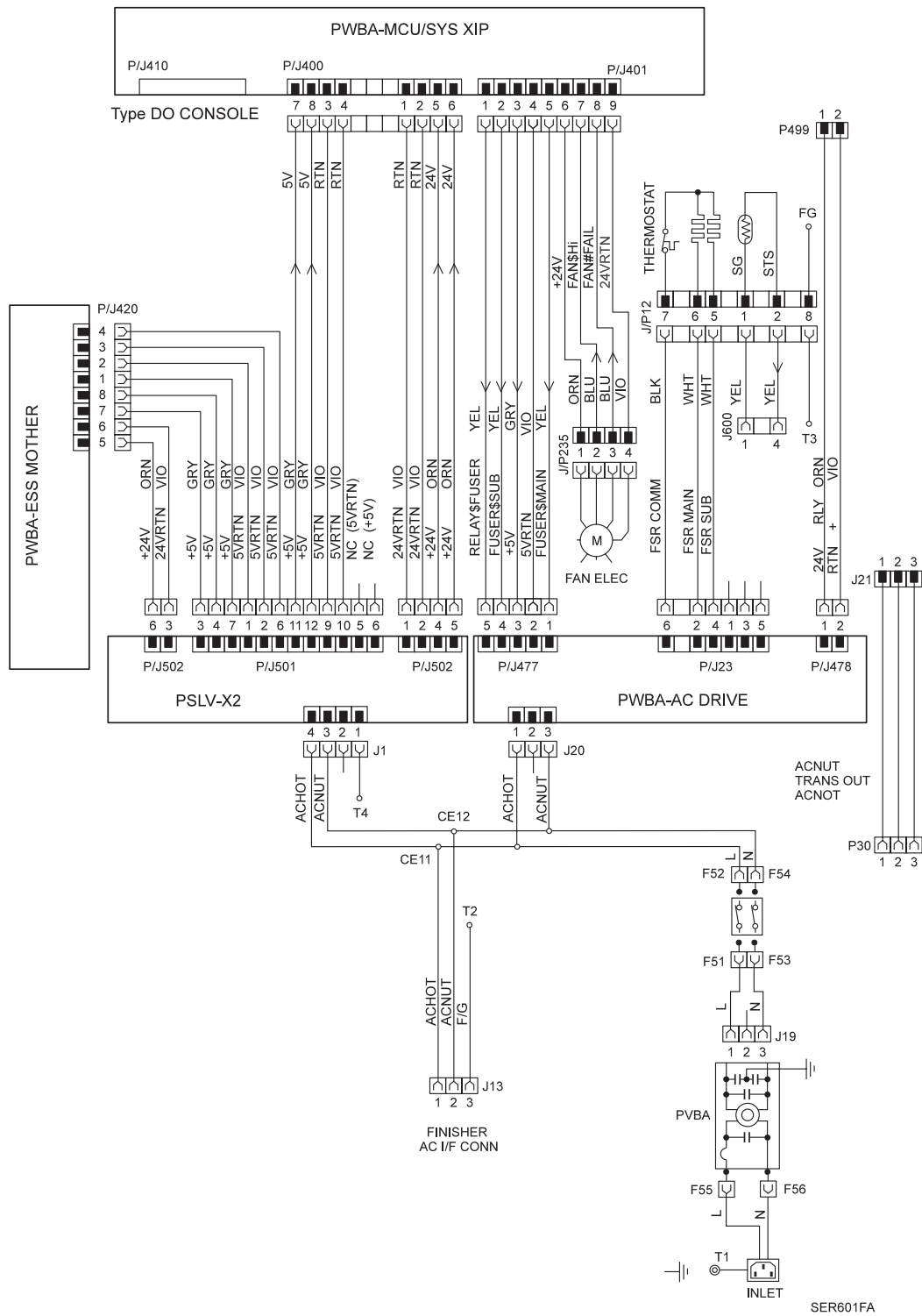
Master Wiring Diagram

SER628XD



SER628XD

BD1 AC in↔Noise Filter↔LVPS↔ESS Mother PWB↔AC Drive PWB↔D0 Console



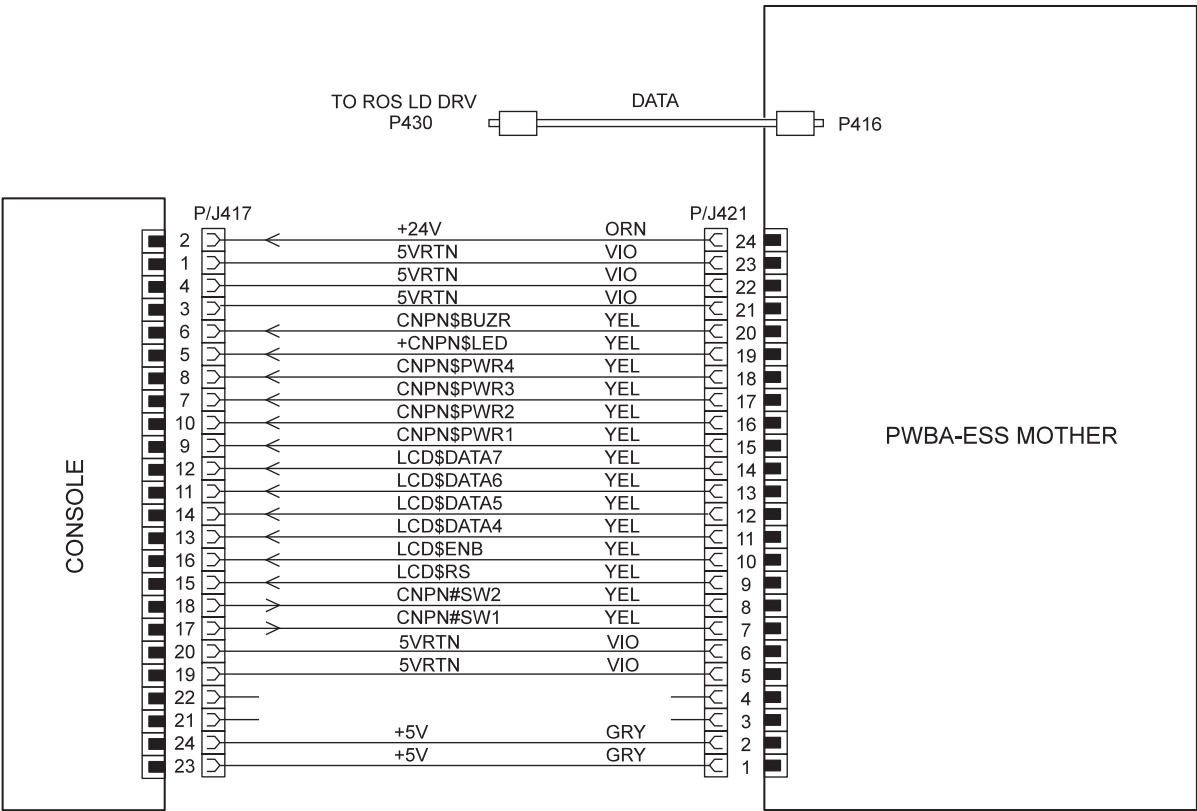
SER601FA

BD1 AC in↔Noise Filter↔LVPS↔ESS Mother PWB↔AC Drive PWB↔D0 Console

The following table shows the signal names for this BD:

Signal Name	Description
FUSER\$MAIN	Switches Main Heat Rod. Low=On. High=Off
FUSER\$SUB	Switches Heat Rod 2. Low=On. High=Off
RELAY\$FUSER	Fuser relay control that switches AC to the Heat Rods. Low=On. High=Off
FAN\$HI	Switches Fuser Fan speed. Low=High speed. High=Low speed
FAN#FAIL	Monitors Fuser Fan. Low=Operating correctly. High=Not operating correctly.

BD2 Console↔ESS Mother PWB



SER602FA

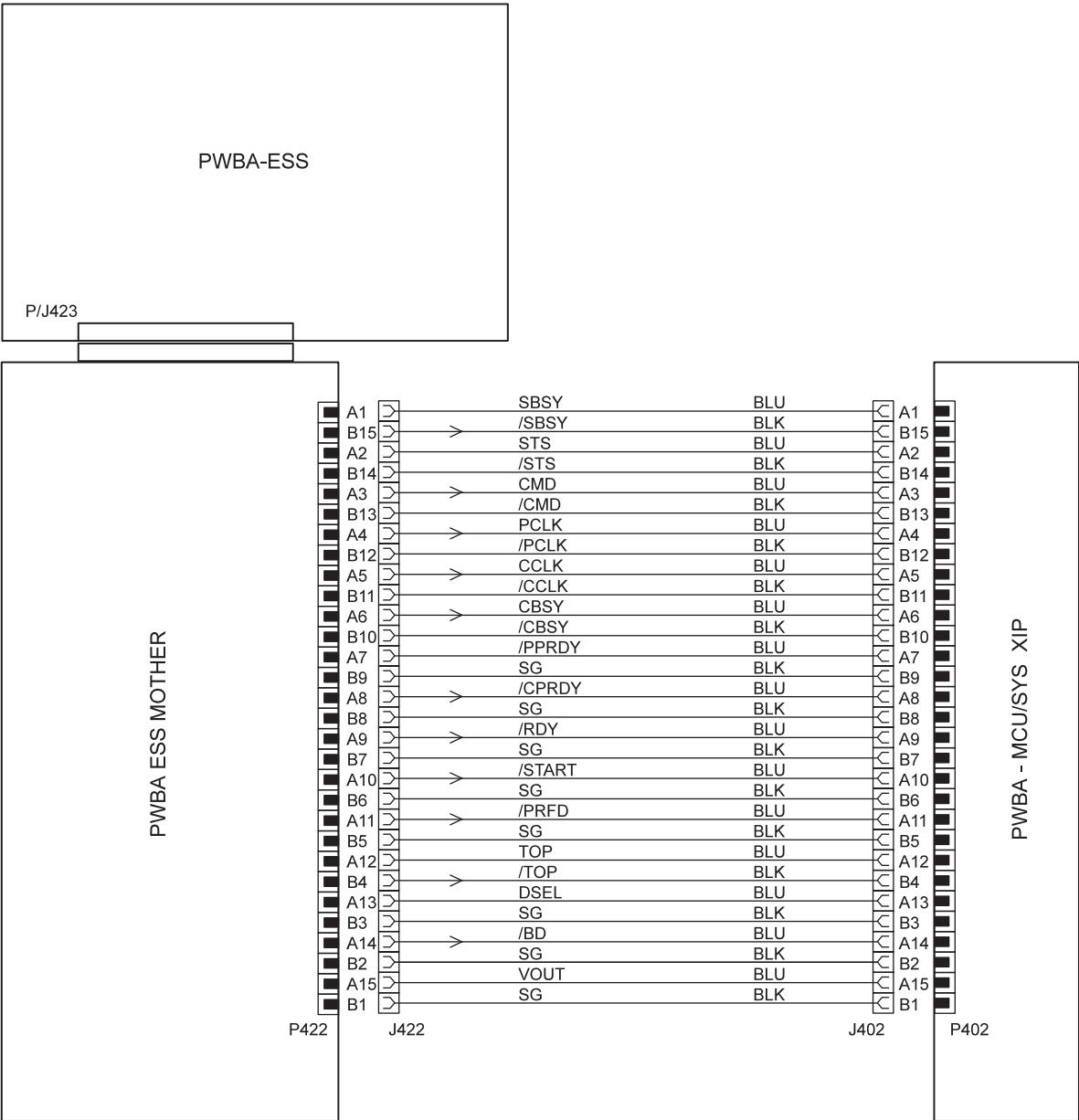
SER602FA

BD2 Console↔ESS Mother PWB

The following table shows the signal names for this BD:

Signal Name	Description
CNPN\$BUZR	Control Panel buzzer
+CNPN\$LED	LED synch. High=Off. Low=On
CNPN\$PWR4	Key synch. High=Key pressed. Low=Key not pressed
CNPN\$PWR3	Source for Key and LED. High=On. Low=Off
CNPN\$PWR2	Source for Key and LED. High=On. Low=Off
CNPN\$PWR1	Source for Key and LED. High=On. Low=Off
LCD\$DATA7	Logic line for Controller LCD
LCD\$DATA6	Logic line for Controller LCD
LCD\$DATA5	Logic line for Controller LCD
LCD\$DATA4	Logic line for Controller LCD
LCD\$ENB	LCD Controller write signal.
LCD\$RS	LCD Controller register select signal. High=Data register. Low=Instruction register
CNPN\$SW1	Key synch. High=Key pressed. Low=Key not pressed
CNPN\$SW2	Key synch. High=Key pressed. Low=Key not pressed

BD3 ESS Mother PWB↔ Video Controller↔MCU PWB



SER603XB

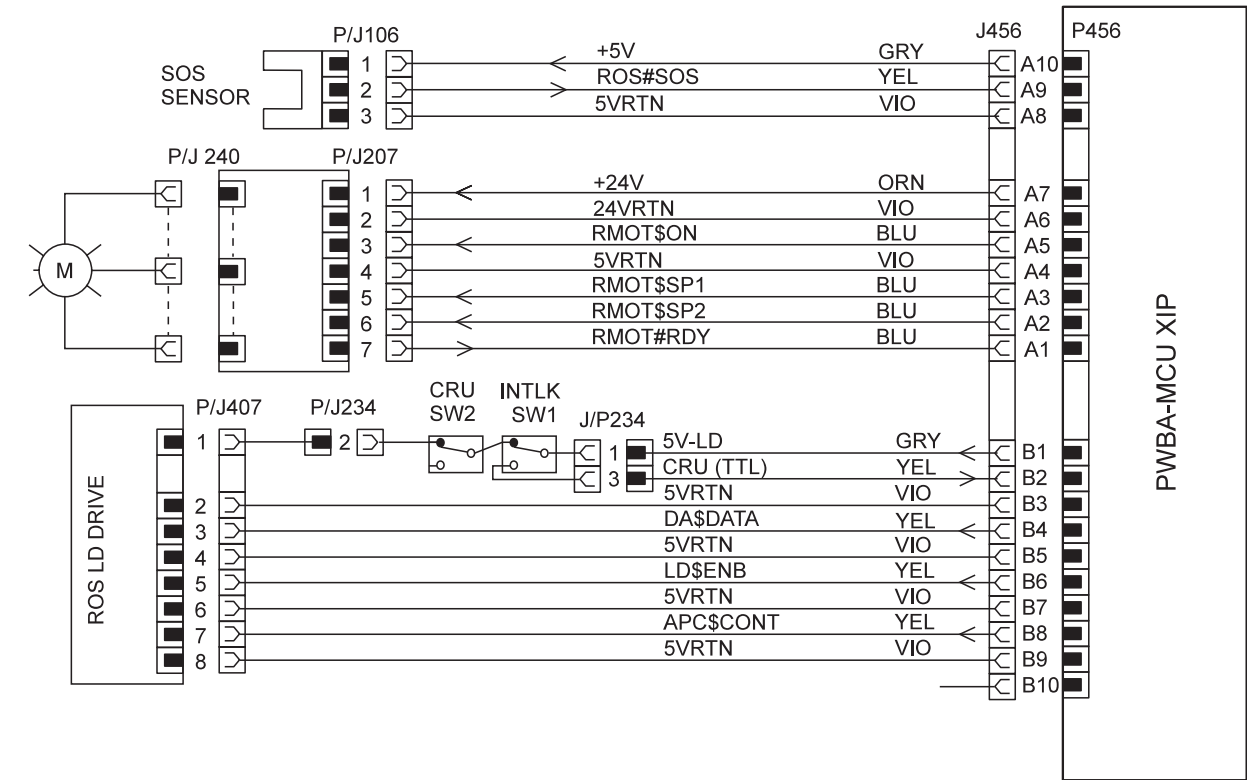
SER603XB

BD3 ESS Mother PWB↔ Video Controller↔MCU PWB

The following table shows the signal names for this BD:

Signal Name	Description
/SBSY	Status busy signal. Low=Transmitting signal. High=Not transmitting
/STA	Status from MCU to ESS
/CMD	Command from ESS to MCU
/PCLK	Clock signal. Clock speed is 9600 bps
/CCLK	Clock signal for status and command timing - ESS to MCU. Clock speed 9.6kHz ~ 500kHz
/CBSY	Command busy signal - ESS to MCU
/PPRDY	Status indicating MCU initialization is complete and printer is On-Line. Low=Printer initialization complete. High=Printer initialization not complete
/CPRDY	Status indicating ESS initialization is complete. Low=ESS initialization complete. High=ESS initialization not complete
/RDY	Status indicating that the MCU is ready to accept control commands. Low=Accept commands. High=Ignore commands
/START	Command from ESS to the MCU to begin a print cycle. Low=Start. High=Do not start. Starts print cycle only when /RDY is also Low.
/PRFD	Command from the ESS to the MCU to feed paper
/TOP	Video data synch signal from MCU to ESS
DSEL	Command to select the No Paper signal
/BD	Video data synch signal from MCU to ESS
VOUT	Video data signal from the ESS

BD4 ROS↔MCU PWB



SER604FA

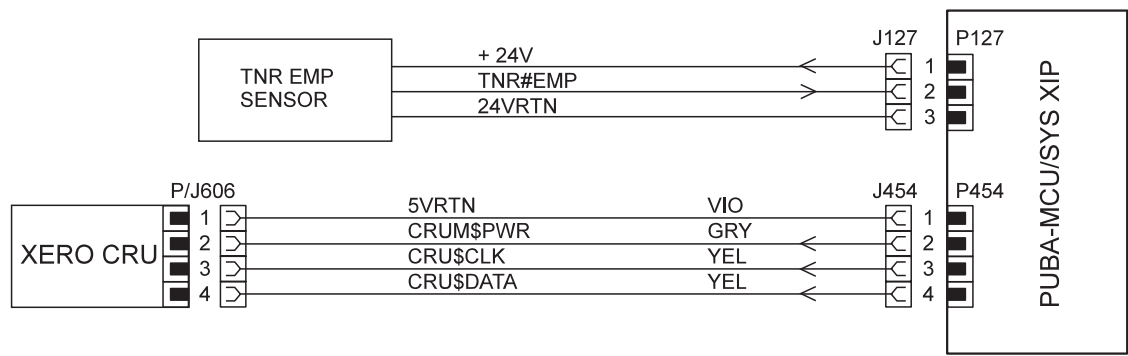
SER604FA

BD4 ROS↔MCU PWB

The following table shows the signal names for this BD:

Signal Name	Description
CRU#DET	Monitors CRU presence. High=CRU installed. Low=CRU not installed
DA\$DATA	Data used to set laser
LD\$ENB	Enables laser - MCU to the LD Drive. High=No enabled. Low=Enabled
APC\$CNT	Monitors APC count
RMOT\$ON	Controls Scanner Motor. High=Off. Low=On
RMOT\$SP1	Controls Scanner Motor speed. SP3-1 -010=Standby. SP3-1-110=480dpi. SP3-1-011=600dpi.
RMOT\$SP2	Controls Scanner Motor speed. SP3-1 -010=Standby. SP3-1-110=480dpi. SP3-1-011=600dpi.
RMOT#RDY	Monitors Scanner Motor speed. Low=Speed correct. High=Speed not correct.
ROS#SOS	Monitors start of scan. High=Off. Low=On

BD5 Toner Sensor↔Xerographic CRU↔MCU PWB



SER605FB

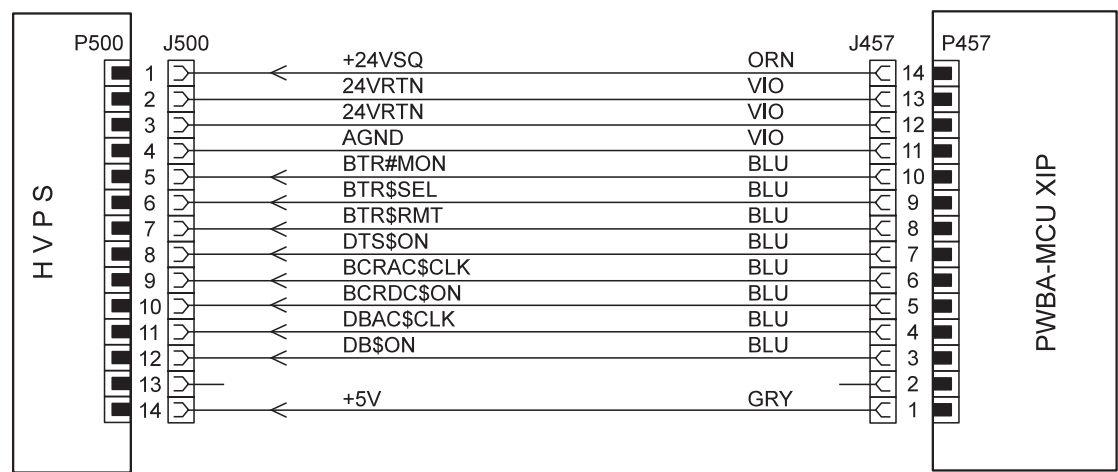
SER605FB

BD5 Toner Sensor↔Xerographic CRU↔MCU PWB

The following table shows the signal names for this BD:

Signal Name	Description
CRUM\$PWR	Switches CRUM power.
CRU\$CLK	Clock signal for CRU Memory
CRU\$DATA	CRU Memory data
TNR#EMP	Monitors level of toner in the EP Cartridge. Low=Toner at unacceptable level. High=Toner at acceptable level

BD6 HVPS↔MCU PWB



SER606FB

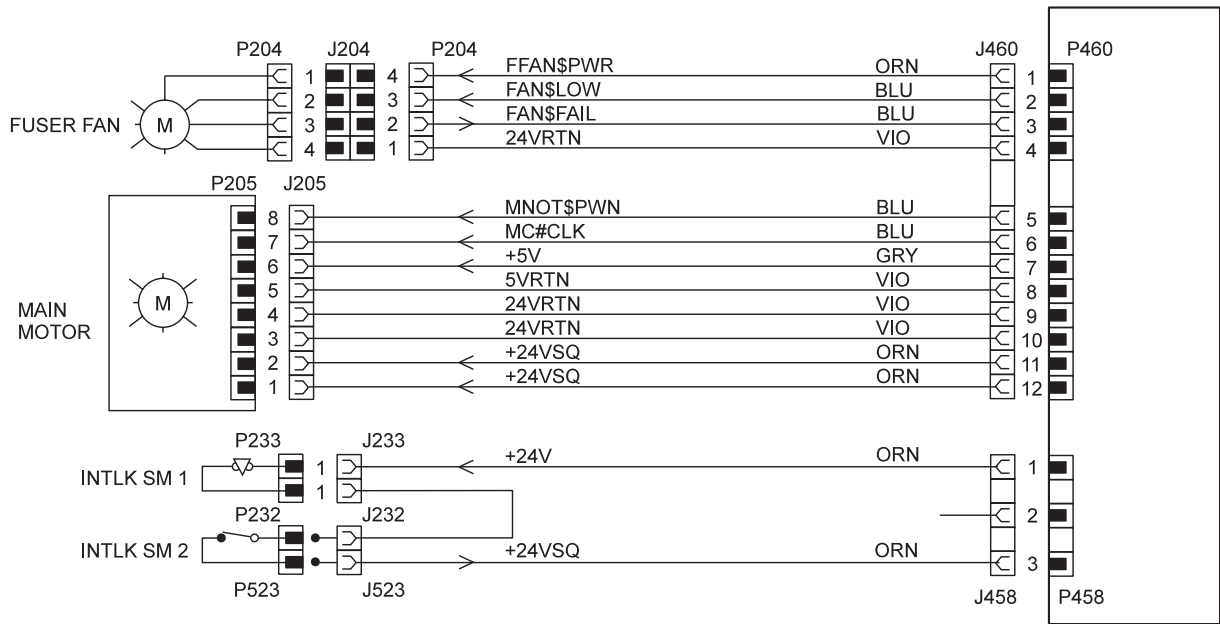
SER606FB

BD6 HVPS↔MCU PWB

The following table shows the signal names for this BD:

Signal Name	Description
BTR#MON	Monitors BTR current level
BTR\$SEL	Switches BTR voltage. High=Positive voltage. Low=Negative voltage
BTR\$RMT	Controls the current value to the BTR
DT\$ON	Switches Detack Saw and Chute Bias voltage. High=Off. Low=On
BCRAC\$CLK	Controls the AC voltage value to the BCR. Negative logic
BCRDC\$ON	Switches BCR voltage. High=Off. Low=On
DBAC\$CLK	Controls the AC voltage value to the Magnet Roll. Negative logic
DB\$ON	Switches DB voltage. Negative logic

BD7 Fuser Fan↔Main Motor↔Interlocks SM1 & SM2↔MCU PWB



SER607FB

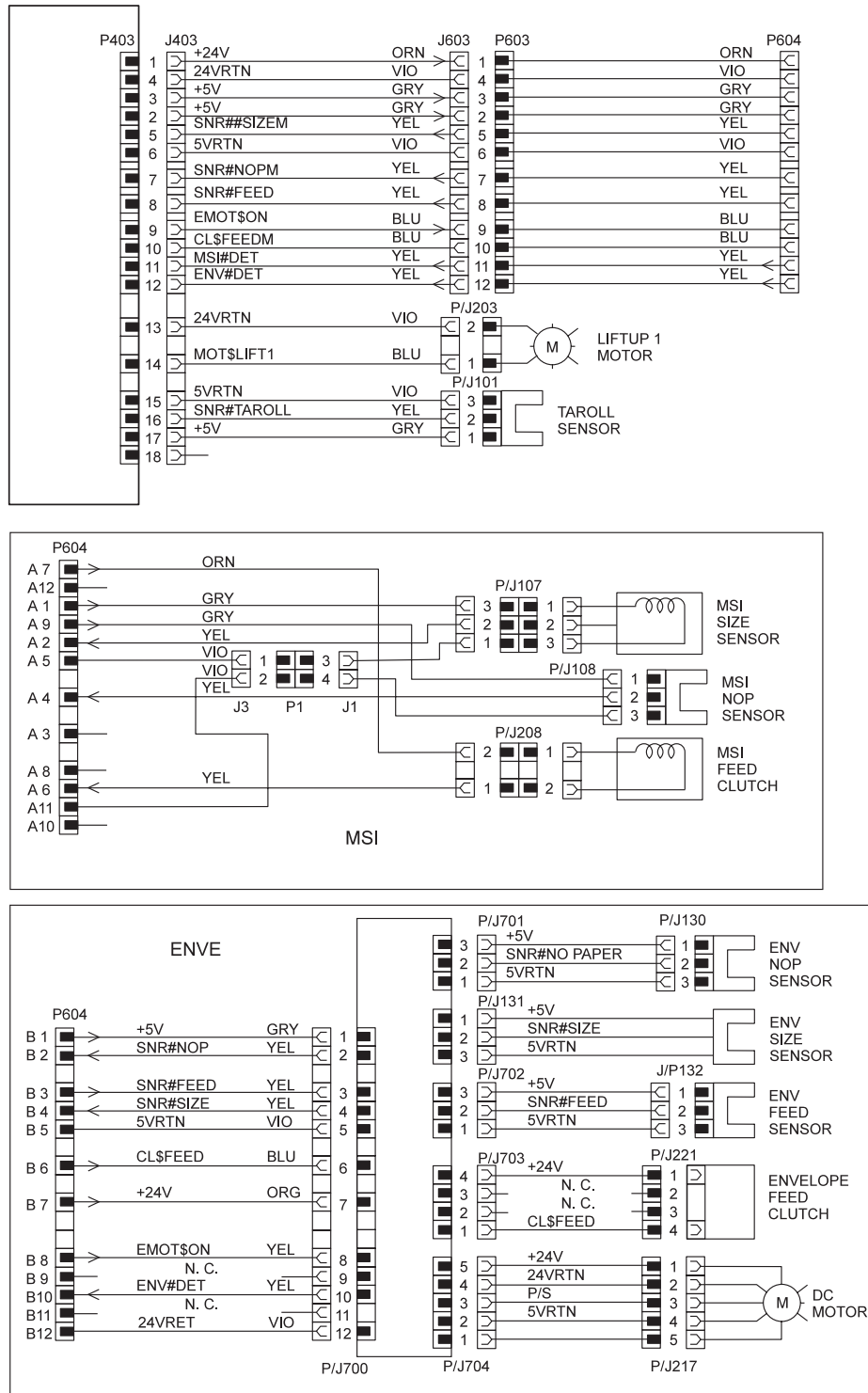
SER607FB

BD7 Fuser Fan↔Main Motor↔Interlocks SM1 & SM2↔MCU PWB

The following table shows the signal names for this BD:

Signal Name	Description
MMOT\$PWM	Switches Main Motor. High=Off. Low=On.
MC#CLK	Monitors the speed of the Main Motor.
FFAN\$PWR	Switches the Fuser Fan. High=On. Low =Off
FAN\$LOW	Switches the speed of the Fuser Fan. High=Low speed. Low=High speed
FUSER\$FAIL	Monitors the Fuser Fan. Low=Operation correct. High=Operation incorrect
INTLK#SW1	Monitors Left Cover interlock switch. High=Cover open. Low=Cover closed.

BD8 TRAY1↔MCU PWB - MSI↔MCU PWB - ENVELOPE FEEDER↔MCU PWB



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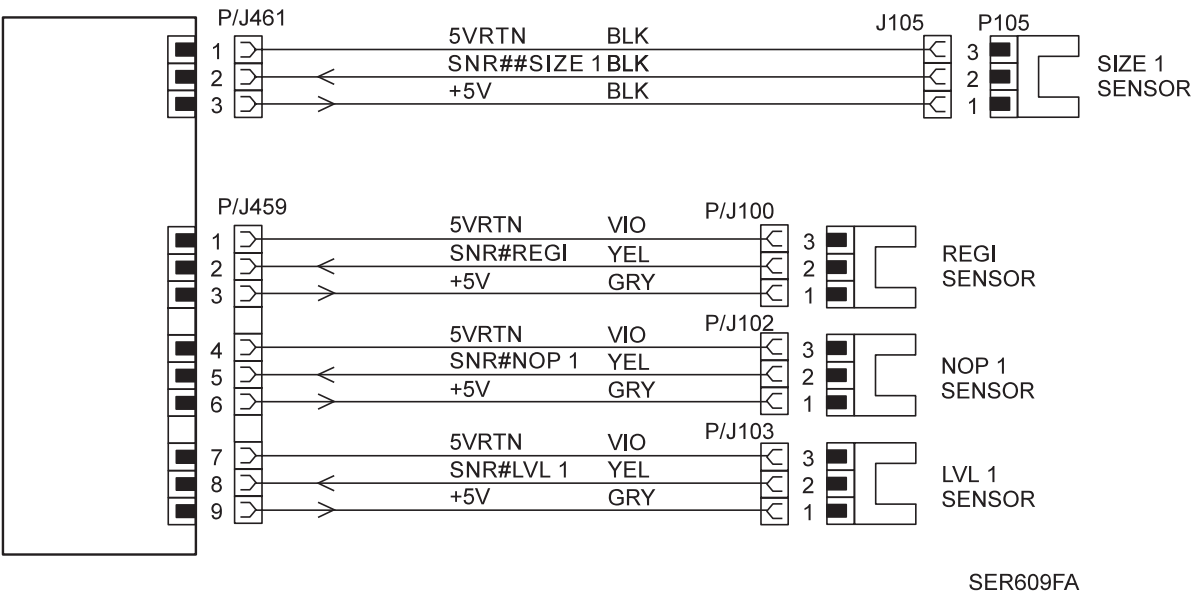
SER608XC

BD8 TRAY1↔MCU PWB - MSI↔MCU PWB - ENVELOPE FEEDER↔MCU PWB

The following table shows the signal names for this BD:

Signal Name	Description
SNR#SIZEM	Analog signal from the MSI Size Sensor. Voltage levels 0VDC~5VDC
SNR#SIZE	Analog signal from the Envelope Size Sensor. Voltage levels 0VDC~5VDC
SNR#NOPM	Monitors level of paper in the MSI. High=No paper present. Low=Paper present
SNR#NOP	Monitors level of paper in the Envelope Feeder
CL\$FEEDM	Controls MSI paper feed. High=No feed. Low=Feed
CL\$FEED	Controls Envelope feed. High=No feed. Low=Feed
MSI#DET	Monitors presence of MSI. High=MSI not present. Low=MSI present
ENV#DET	Monitors presence of Envelope Feeder. High=Envelope Feed not present. Low=Envelope Feeder present
EMOT\$ON	Switches Envelope Feed Motor. High=Off. Low=On
SNR#FEED	Monitors paper between Envelope Feeder and base engine. High=Paper present Low=No paper
MOT\$LIFT1(TTL)	Switches Tray 1 Lift Up Motor. High=On. Low=Off
SNR#TAROL1	Monitors paper between Tray 2 and Tray 1. High=Paper present. Low=No paper

BD9 Size 1 Sensor↔Registration Sensor↔No-Paper 1 Sensor↔Level 1 Sensor↔MCU PWB



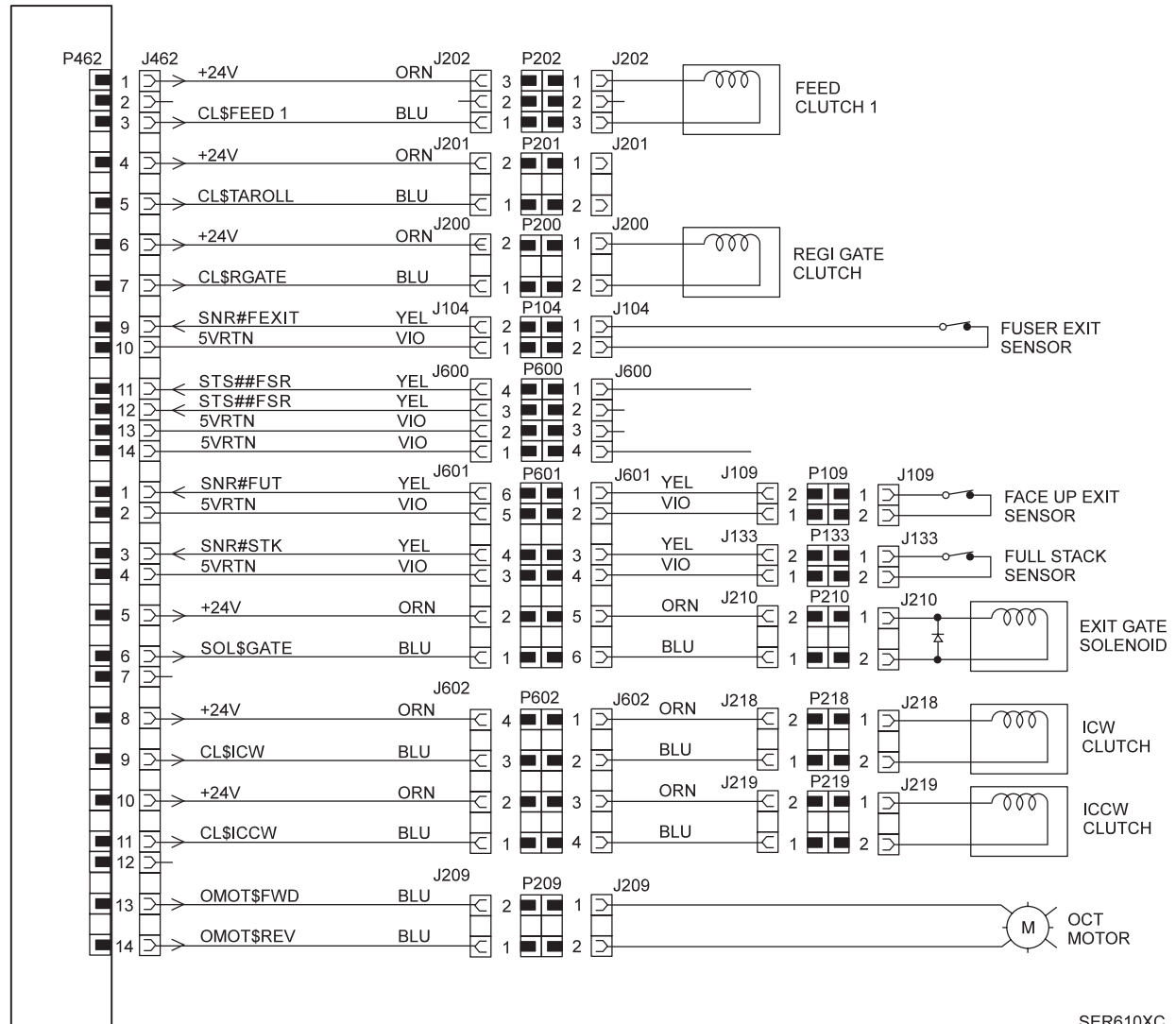
SER609FA

BD9 Size 1 Sensor↔Registration Sensor↔No-Paper 1 Sensor↔Level 1 Sensor↔MCU PWB

The following table shows the signal names for this BD:

Signal Name	Description
SNR#SIZE1	Analog signal from the Tray 1 Size Sensor. Voltage levels 0VDC~5VDC
SNR#REGI	Monitors paper flow at the Registration Sensor. High=Paper present. Low=No paper
SNR#NOP1	Monitors level of paper in Tray 1
SNR#LVL1	Monitors position of Tray 1. High=Not in position. Low=In position

BD10 Miscellaneous Clutches and Sensors, Offset Motor, Exit Gate Solenoid↔MCU PWB



SER610XC

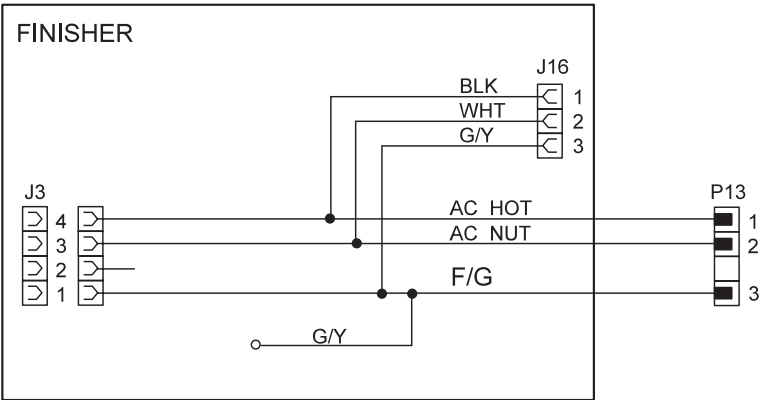
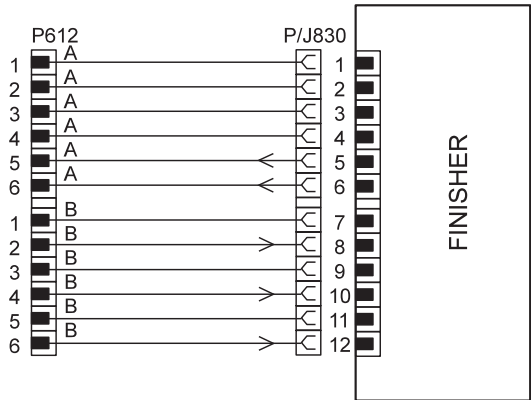
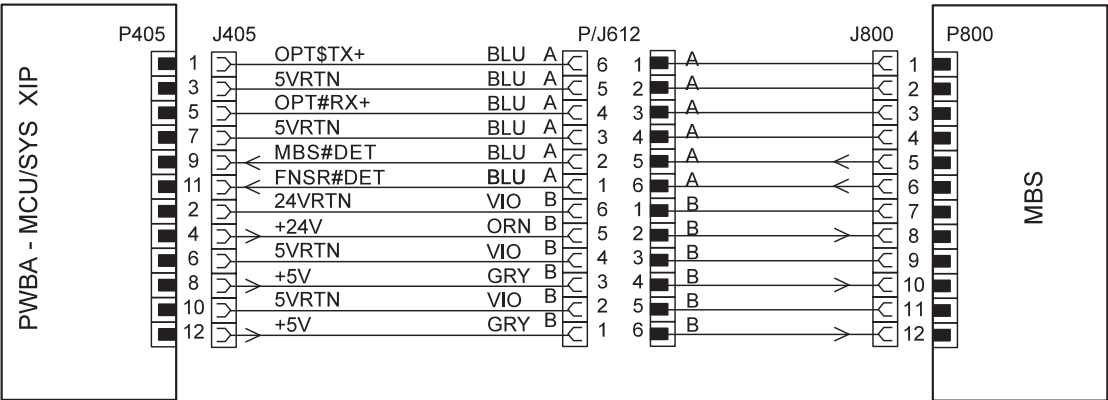
SER610XC

BD10 Miscellaneous Clutches and Sensors, Offset Motor, Exit Gate Solenoid↔MCU PWB

The following table shows the signal names for this BD:

Signal Name	Description
CL\$FEED1	Controls Tray 1 paper feed. High=No feed. Low=Feed
CL\$RGATE	Controls Registration Clutch. High=Clutch off. Low=Clutch on
STS#FSR	Fuser Heat Roll temperature. Analog signal.
SNR#FEXIT	Monitors paper leaving the Fuser. High=Paper present. Low=Paper not present
SNR#FUT	Monitors paper arriving at the Face Up output tray. High=Paper not present. Low=Pape present
SOL\$GATE	Controls Gate Solenoid. High=Face Down output. Low=Face Up output.
CL\$ICCW	Controls Inverter CCW Clutch. High=Off. Low=On
CLS\$ICW	Controls Inverter CW Clutch. High=Off. Low=On
OMOT\$FWD	Controls forward motion of the Offset Motor. High=On. Low=Off
OMOT\$REV	Controls reverse motion of the Offset motor. High=On. Low=Off
SNR#STK	Monitors the Full Stack Sensor. High=Tray full. Low=Tray not full

BD11 Mailbox↔Finisher↔MCU PWB



SER611FA

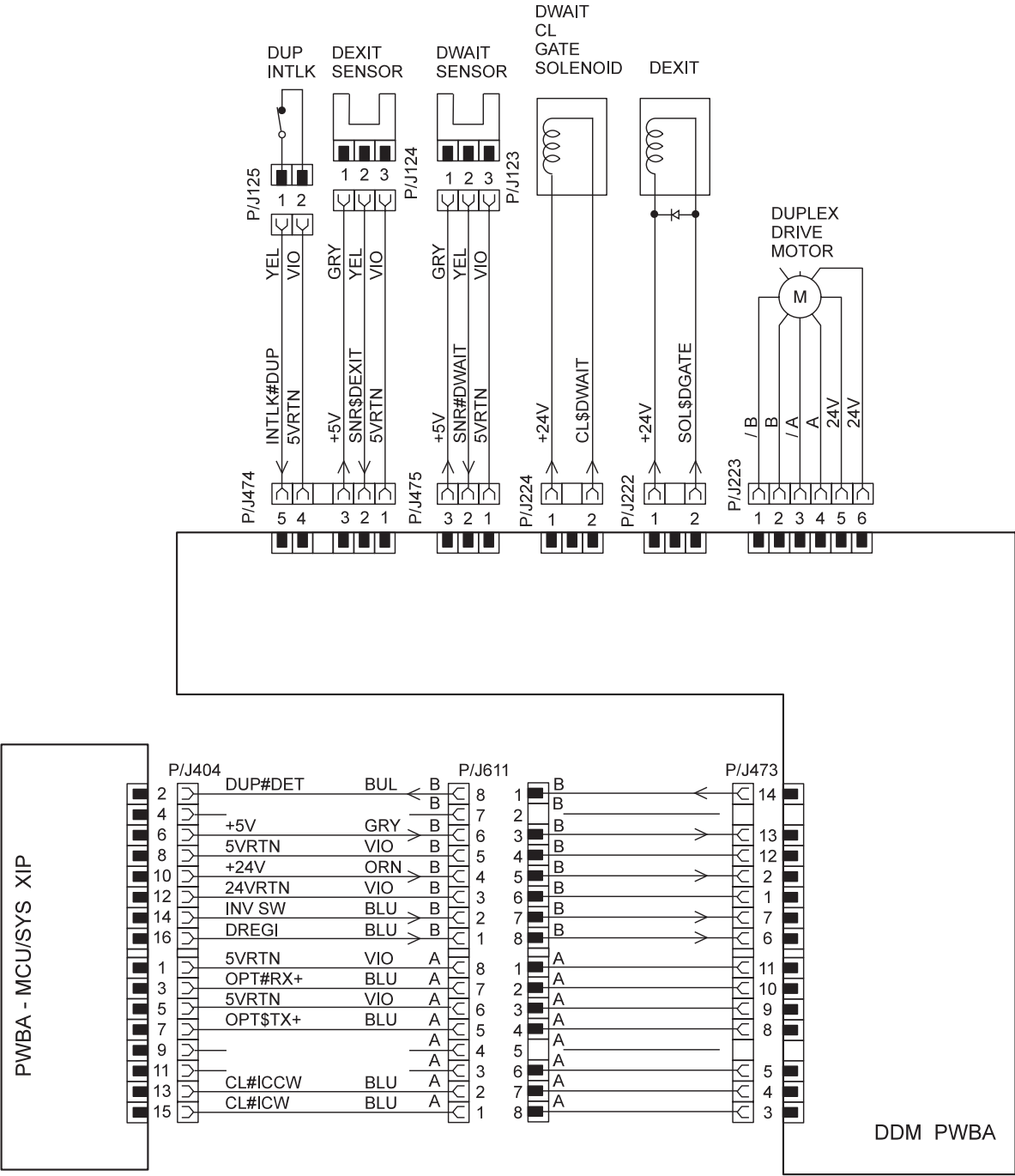
SER611FA

BD11 Mailbox↔Finisher↔MCU PWB

The following table shows the signal names for this BD:

Signal Name	Description
OPT\$TX+	Status of Finisher or Mailbox sent to MCU. High=Mark. Low=No mark
OPT#RX+	Status of MCU sent to the Finisher or Mailbox. High=Mark. Low=No mark
MBS#DET	Monitors presence of Mailbox. High=Mailbox not installed. Low=Mailbox installed
FSNR#DET	Monitors presence of Finisher. High=Finisher not installed. Low=Finisher installed

BD12 Duplex PWB↔MCU PWB



SER612XC

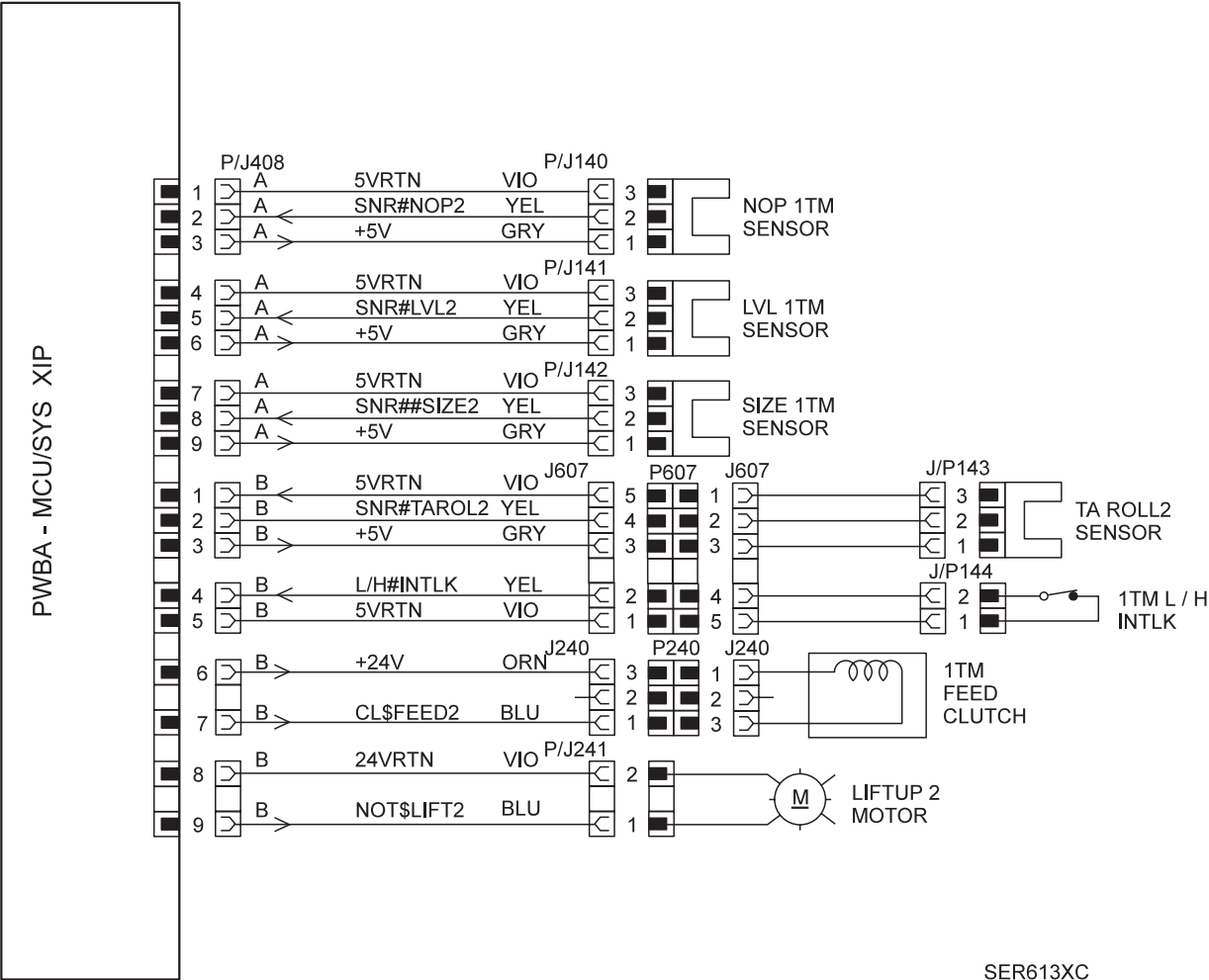
SER612XC

BD12 Duplex PWB↔MCU PWB

The following table shows the signal names for this BD:

Signal Name	Description
OPT\$TX+	Status of Duplex Module sent to MCU. High=Mark. Low=No mark
OPT#RX+	Status of MCU sent to the Duplex Module. High=Mark. Low=No mark
DUP#DET	Monitors presence of a Duplex Module. High=Duplex Module installed. Low=Duplex Module not installed
DREGI	Monitors paper at the Registration Sensor. High=Paper present. Low=Paper not present
INV SW	Monitors paper at the Fuser Exit Sensor. High=Paper present. Low=Paper not present
CL\$ICW	Switches the Inverter CW Clutch. High=Off. Low=On
CL\$ICCW	Switches the Inverter CCW Clutch. High=Off. Low=On
INTLK#DUP	Monitors the Duplex Cover Interlock Switch. High=Cover open. Low=Cover closed.
SNR#DEXIT	Monitors paper at the Duplex Exit Sensor. High=Paper present. Low=Paper not present
SNR#DWAIT	Monitors paper at the Duplex Wait Sensor. High=Paper present. Low=Paper not present
SOL\$DGATE	Switches the Duplex Exit Gate Solenoid. High=Off. Low=On
/A, A, /B, B	Pulse signals sent by the Duplex PWB to rotate the Duplex Motor

BD13 Tray 2 Components↔MCU PWB



SER613XC

BD13 Tray 2 Components↔MCU PWB

The following table shows the signal names for this BD:

Signal Name	Description
SNR#SIZE2	Analog signal from the Tray 2 Size Sensor. Voltage levels 0VDC~5VDC
SNR#NOP2	Monitors level of paper in Tray 2. High=No paper present. Low=Paper present
SNR#TAROL2	Monitors paper between Tray 2 and Tray 3. High=Paper present. Low=No paper
SNR#LVL2	Monitors position of Tray 2. High=Not in position. Low=In position
L/H#INTLK	Monitors the Left Cover Interlock Switch. High= Cover open (switch off). Low=Cover closed (switch on).
CL\$FEED2	Controls Tray 2 paper feed. High=No feed. Low=Feed
MOT\$LIFT2	Switches Tray 2 Lift Up Motor. High=On. Low=Off

Section 15 - Printer Specifications**Contents**

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General Specifications

Category	Specification
Standard configuration	Print Engine Tray 1 (500 sheet) Tray 2 (500 sheet) MSI (50 sheet) Offset Unit EP Cartridge
Printing method	Xerography
Exposure method	Data modulated (off and on) laser beam scanning
Laser specifications	Class 3B, 5milliwatt semiconductor laser diode
Resolution of printed image	600 dpi (dots per inch)
Fusing method	Heat and pressure
Warm-up time	From sleep mode (with an ambient temperature of 22°C) to Ready to Print within 60 seconds.
Power supply	110V printer 110/115VAC (90~132VAC) @ 50/60 Hz (47~63 Hz) 220V printer 220VAC (198 ~ 264VAC) @ 50/60 Hz (47 ~ 63 Hz)
Power consumption and input current of the IOT during a print cycle - assuming an Video Controller current of 8.0 amperes and 5VDC.	110VAC: 900 watts / 9.0 amps 115VAC: 900 watts / 7.8 amps 220VAC: 900 watts / 4.3 amps
Size and weight	Height: 486mm Width: 642mm (with MSI installed) Depth: 523mm Weight: 45kg - 110V printer Weight: 47.5 kg - 220V printer
Minimum space requirements	Front: 460mm Back: 200mm Right: 200mm (800mm with HCS installed) Left: 364mm (640mm with Duplex Module installed)
Maximum paper size	Tray 1 and 2: 279.4mm x 431.8mm MSI: 279.4mm x 431.8mm
Maximum printable area	279.4mm x 431.8mm. Print quality may deteriorate in a 4mm margin around the sheet of paper
Maximum paper tray capacity (Xerox 4024 DP 20lb or equivalent)	MSI: 50 sheets Tray 1: 500 sheets Tray 2: 500 sheets Tray 3: 500 sheets HCF4: 1000 sheets HCF5: 1000 sheets

Category	Specification
Maximum output tray capacity (Xerox 4024 DP 20lb or equivalent, freshly opened package in 22°C/55~60% humidity environment)	Face Down Tray: 500 sheets
Operating environment with the Print Engine unpacked and the EP Cartridge installed	Operating 5 ~ 30°C / 15 ~ 85% RH with no condensation 0 ~ 8200 feet above sea level Maximum of 5mm difference side to side and front to back in horizontal surface Ambient light less than 3000 LUX (Avoid direct sunlight) Non-operating 5 ~ 35°C / 5 ~ 85% RH with no condensation 0 ~ 49200 feet above sea level Severe conditions (one week maximum) -20 ~ 40°C / 5 ~ 95% RH with no condensation
Storage environment of Print Engine still in the packing box	Normal conditions (12 month maximum) 0 ~ 35°C / 15 ~ 85% RH with no condensation 0 ~ 8200 feet above sea level 8200 ~ 49200 feet above sea level in a pressurized cargo hold Severe conditions (48 hours maximum) -20 ~ 40°C / 5 ~ 95% RH with no condensation 0 ~ 8200 feet above sea level 8200 ~ 49200 feet above sea level in a pressurized cargo hold
Storage environment of EP Cartridge still in the packing box	Normal conditions (24 months maximum from date of manufacture) 0 ~ 35°C / 15 ~ 85% RH with no condensation 0 ~ 8200 feet above sea level 8200 ~ 49200 feet above sea level in a pressurized cargo hold Severe conditions (1 month maximum for date of manufacture) -20 ~ 40°C / 5 ~ 95% RH with no condensation 0 ~ 8200 feet above sea level 8200 ~ 49200 feet above sea level in a pressurized cargo hold
Noise generated (excluding impulse noise) ISO 7779	Printing: 70.0 db Standby: 58.0 db
Dust generated (one hour test)	No more than 0.1 mg/m ³
EP Cartridge life	23,000 prints on standard 20lb letter-size paper with 5% image coverage and 4mm white borders.
Paper feeder life	Either 1.5 million simplex sheets of B5 size paper or 5 years - whichever comes first.
Print engine life	Either 1.5 million simplex sheets of B5 size paper or 5 years - whichever comes first.

Safety Standards

3260/4032 satisfies the following safety standards:

Category	Standard Satisfied
Laser Safety	100V and 115V printers: FDA 21 CFR Chapter 1, Subchapter J, Sections 1010 & 1040 for CDRH Class I Laser Product. 220V printer: IEC825 Class I Laser Product.
Ozone generation	Less than 0.02 ppm in Time Weighted Average (TWA). Measured according to ECMA 129
EMI	100V printer: VCCI Information Processing Equipment, Class II. FCC Part 15, subpart B, class B (ANSI C63.4/11.4D) 220V printer: EN55022 (CISPR Publication 22) Class B
Other standards	100V printer: IEC 950 2nd edition with amendment 1 (1995) 115V printer: UL 1950 2nd edition 220V printer: IEC950 2nd edition with amendment 1 (1995). CE directive.

Printing Speed for First Sheet Out

Simplex Mode Paper Size	Maximum Time Needed for Initial Print (Times shown are from Start command to first sheet out to the Face Down Tray. Times assume the is in Ready to Print - with the printer motor idle)				
	Tray 1	Tray 2	Tray 3	HCF 4	HCF 5
A4 LEF	4.0 sec	4.7 sec	5.1 sec	6.0 sec	7.2 sec
8.5 x 11 LEF	4.0 sec	4.7 sec	5.1 sec	6.0 sec	7.2 sec

Duplex Mode Paper Size	Maximum Time Needed for Initial Print (Times shown are from Start command to first sheet out to the Face Down Tray. Times assume the is in Ready to Print - with the printer motor idle)				
	Tray 1	Tray 2	Tray 3	HCF 4	HCF 5
A4 LEF	8.6 sec	9.3 sec	9.7 sec	10.6 sec	11.8 sec
8.5 x 11 LEF	8.6 sec	9.3 sec	9.7 sec	10.6 sec	11.8 sec

Continuous Printing Speed After The First Sheet Out in Simplex Mode

Paper Type	Tray 1 and 2 (prints per minute)	Tray 3 (prints per minute)	HCF 4 & 5 (prints per minute)	MSI (prints per minute)
A4 LEF	32	32	32	26
LETTER LEF	32	32	32	26
A4 SEF	24	24	--	21
LETTER SEF	24	24	--	21
B4 SEF	20	20	--	19
Legal 13" SEF	20	20	--	19
Legal 14" SEF	20	20	--	19
A3 SEF	16	16	--	16
Ledger SEF	16	16	--	16

Continuous Printing Speed After The First Sheet Out in Duplex Mode

Paper Type	Tray 1 and 2 (prints per minute)	Tray 3 (prints per minute)	HCF 4 & 5 (prints per minute)	MSI (prints per minute)
A4 LEF	31	28	23	19
LETTER LEF	31	28	23	19
A4 SEF	17	17	--	--
LETTER SEF	17	17	--	--
B4 SEF	15	15	--	--
Legal 13" SEF	15	15	--	--
Legal 14" SEF	15	15	--	--
A3 SEF	14	13	--	--
Ledger SEF	14	13	--	--

Paper Feeder & Supported Paper Specifications

The printer uses the following paper feeder/paper size combinations:

Trays 1 and 2 for the 500 Sheet Feeder (standard)

Standard feeder for the 3260/4032 printer. Each tray has paper size automatic sensing. Trays 1 and 2 can each hold up to 500 sheets (54mm stack height of 20lb paper) of the following paper.

Factory set Option 1	Factory set Option 2
Ledger SEF - 279.4mm x 431.8mm	Ledger SEF - 279.4mm x 431.8mm
A3 SEF - 297mm x 420mm	A3 SEF - 297mm x 420mm
B4 SEF - 257mm x 364mm	Legal 14" SEF - 215.9mm x 355.6mm
Letter SEF LEF - 215.9mm x 279.4mm	Letter SEF LEF - 215.9mm x 279.4mm
Legal 13" SEF - 215.9mm x 330.2mm	Legal 13" SEF - 215.9mm x 330.2mm
A4 SEF LEF - 210mm x 297mm	A4 SEF LEF - 210mm x 297mm
Executive LEF - 184.2mm x 266.7mm	B5 LEF - 182mm x 257mm
A5 LEF - 149mm x 210mm	A5 LEF - 149mm x 210mm
STATEMENT - 139.9mm x 215.9mm	STATEMENT - 139.9mm x 215.9mm

High Capacity Feeder - Tray 3 (option)

Top HCF tray for the 3260/4032 printer. Tray 3 has paper size automatic sensing. Tray 3 can hold up to 500 sheets (54mm stack height of 20lb paper) of the following paper.

Factory set Option 1	Factory set Option 2
Ledger SEF - 279.4mm x 431.8mm	Ledger SEF - 279.4mm x 431.8mm
A3 SEF - 297mm x 420mm	A3 SEF - 297mm x 420mm
B4 SEF - 257mm x 364mm	Legal 14" SEF - 215.9mm x 355.6mm
Letter SEF LEF - 215.9mm x 279.4mm	Letter SEF LEF - 215.9mm x 279.4mm
Legal 13" SEF - 215.9mm x 330.2mm	Legal 13" SEF - 215.9mm x 330.2mm
A4 SEF LEF - 210mm x 297mm	A4 SEF LEF - 210mm x 297mm
Executive LEF - 184.2mm x 266.7mm	B5 LEF - 182mm x 257mm

High Capacity Feeder - Tray 4 and Tray 5 (option)

Optional feeder for the 3260/4032 printer. Trays 4 and 5 can each hold up to 1000 sheets (54mm stack height of 20lb paper) of the following paper.

Factory set Option 1	Factory set Option 2
Letter SEF LEF - 215.9mm x 279.4mm	Letter SEF LEF - 215.9mm x 279.4mm
A4 SEF LEF - 210mm x 297mm	A4 SEF LEF - 210mm x 297mm
Executive LEF - 184.2mm x 266.7mm	B5 LEF - 182mm x 257mm

MSI (Multi Sheet Inserter) (standard)

Standard feeder for the 3260/4032 printer. The MSI attaches to the left side of the printer. The MSI holds up to 50 sheets (5mm stack height of 64 ~ 105gsm paper or 190gsm postcard) of the following paper.

Factory set Option 1	Factory set Option 2
Ledger SEF - 279.4mm x 431.8mm	Ledger SEF - 279.4mm x 431.8mm
A3 SEF - 297mm x 420mm	A3 SEF - 297mm x 420mm
B4 SEF - 257mm x 364mm	Legal 14" SEF - 215.9mm x 355.6mm
Letter SEF LEF - 215.9mm x 279.4mm	Letter SEF LEF - 215.9mm x 279.4mm
Legal 13" SEF - 215.9mm x 330.2mm	Legal 13" SEF - 215.9mm x 330.2mm
A4 SEF LEF - 210mm x 297mm	A4 SEF LEF - 210mm x 297mm
Executive LEF - 184.2mm x 266.7mm	B5 LEF - 182mm x 257mm
Postcard - 100mm x 148mm	Postcard - 100mm x 148mm

Envelope Feeder (option)

Optional Envelope feeder for the 3260/4032 printer. Replaces the MSI. The Envelope Feeder has a no paper sensor. The Envelope Feeder can hold the following envelopes (maximum of 100 envelopes between 64 ~ 105gsm).

Envelope type (100 maximum)
COM #10 (Monroe Brand) - 104.8mm x 241.3mm
Monarch (Monroe Brand) - 98.4mm x 190.5mm
C5 SEF (River series #02067/Gummed) - 162mm x 229mm
DL (River series #01029/Gummed) - 110mm x 220mm

Paper Output Devices & Supported Paper Specifications

The printer uses the following paper output/paper size combinations:

Face Down Tray (standard)

Standard output tray for the 3260/4032 printer. Paper is transported out of the printer face down onto the printer Top Cover. This Tray holds up to 500 sheets of 20 lb paper, and comes equipped with Full Stack detection. When the HCS is installed on the printer, the maximum paper stack in the Face Down Tray is reduced to 300, and the HCS monitors Full Stack detection.

Offset Unit (Standard)

The Offset Unit is attached above the Fuser on the printer base engine. Each sheet of paper is transported out of the printer, offset 10mm from the last sheet, then placed in the Face Down Tray. Paper size supported by the Offset Unit:

Paper
Letter SEF (20lb) - 216mm x 279mm
Legal 13" SEF (20lb) - 216mm x 330mm
Legal 14" SEF (20lb) - 216mm x 356mm
A4 SEF (RX80) - 210mm x 297mm
Ledger - 297mm x 432mm
A3 - 297mm x 420mm

Duplex Module (option)

Optional Duplex Module for the 3260/4032 printer. Provides duplex printing for 64gsm ~ 90gsm paper fed from Trays 1 through 5. The minimum paper size recommended for Duplex feed is B5 LEF or Executive. The maximum paper size recommended for Duplex feed is A3 SEF or 11" x 17" SEF.

Face Up Tray (option)

Optional Face Up Tray attaches to the left side of the 3260/4032 printer. Paper is transported out of the printer face up onto the Face Up Tray. The Tray holds up to 200 sheets of 20 lb paper. There is no Full Stack detection for this tray.

Mailbox (option)

Optional Mailbox attaches to the 3260/4032 printer. Paper is transported out of the printer and sorted and placed into designated mail bins. Each bin holds up to 100 sheets of 20lb paper. The Mailbox cannot be installed if the HCS is also installed.

High Capacity Stacker (HCS) (option)

Optional High Capacity Stacker attaches over and to the right of the 3260/4032 printer. The HCS provides compiling, stapling, and stacking functions.

Printing Media Specifications for Use With 3260/4032

Standard Paper

- FX L A4 (LEF)
- RX80 A4 (LEF)
- XEROX 4024 DP 20lb Letter (LEF)

Special Media Used with 3260/4032 (depending on printer model)

Type	Size	Media Name	MSI	Tray 1 Tray 2	Tray 3 HCF Tray 4 Tray 5	Env
Transparency	Letter - 8.5" x 11"	Xerox P/3R2780 (US)	Y	N	N	N
Transparency	A4 - 210mm x 297mm	Xerox PN3R9600 (EU)	Y	N	N	N
Transparency	A4 - 210mm x 297mm	Xerox PNJE001 (Japan)	Y	N	N	N
Labels	Letter - 8.5" x 11"	Xerox PN3R4469 (US)	Y	N	N	N
Labels	A4 - 210mm x 297mm	Xerox P/3R97406 (EU)	Y	N	N	N
Labels	A4 - 210mm x 297mm	Xerox P/N V860 (Japan)	Y	N	N	N
Envelope	4 1/8" x 9 1/2"	Monroe Brand COM #10	N	N	N	Y
Envelope	3 7/8" x 7 1/2"	Monroe Brand Monarch	N	N	N	Y
Envelope	162mm x 229mm	C5 (Rivers series #02067/ Gummed	N	N	N	Y
Envelope	110mm x 220mm	DL (Rivers series #01029/ Gummed	N	N	N	Y
Postcard	A6 - 100mm x 148mm	Japanese Official Postcard	Y	N	N	N

Recommended Paper for Feed from 3260/4032 Universal Trays

Weight	Product Name	A3	Ledger	B4	Legal 14"	Legal 13"	A4	Letter	Executive	B5	A5	Half Letter
20lb	Xerox 4024		Y		Y	Y		LEF for HCF				
28lb	Xerox 4024							LEF for HCF				
20lb	Nekosa								LEF for HCF			
24lb	Nekosa		Y		Y	Y		LEF for HCF	LEF for HCF			
20lb	Xerox											MSI 3R2072
80gsm	RX80 (Black)	3R901 20		3R900 61			LEF for HCF 3R900 08				MSI 3R9000 0	
90gsm	RX90 3R90614						LEF for HCF 3R906 14					
64gsm	FX L	standard		Y			MSI			LEF for HCF	LEF for HCF	

Image Reproduction and Registration Specifications

Environmental conditions during the test: 1 ~ 500 imp @ 18 ~ 27°C / 20 ~ 65% RH

501 ~ 10,000 imp @ 10 ~ 32°C / 15 ~ 85% RH

Measurement	Measurement Accuracy	Measurement conditions
Lead Edge Registration	SIMPLEX: $\pm 1.5\text{mm}$ DUPLEX: $\pm 1.9\text{mm}$ MSI: $\pm 2.1\text{mm}$	--
Side Edge Registration	SIMPLEX: $\pm 2.0\text{mm}$ DUPLEX: $\pm 2.4\text{mm}$ MSI: $\pm 2.9\text{mm}$	--
Skew	SIMPLEX: $\pm 1.54\text{mm}$ DUPLEX: $\pm 2.0\text{mm}$ MSI: $\pm 1.5\text{mm}$	Viewed at a distance of 200mm
Perpendicularity	SIMPLEX: $\pm 1.7\text{mm}$ DUPLEX: $\pm 2.2\text{mm}$ MSI: $\pm 2.1\text{mm}$	Viewed at a distance of 390mm
Parallelism	SIMPLEX: $\pm 2.0\text{mm}$ DUPLEX: $\pm 2.0\text{mm}$ MSI: $\pm 2.0\text{mm}$	L=390mm
Vertical Magnification	SIMPLEX: $100 \pm 0.8\%$ DUPLEX: $100 \pm 0.8\%$ MSI: $100 \pm 0.8\%$	Viewed at a distance of 220mm
Horizontal Magnification	SIMPLEX: $100 \pm 0.8\%$ DUPLEX: $100 \pm 0.8\%$ MSI: $100 \pm 0.8\%$	View at a distance of 190mm
Vertical Linearity	SIMPLEX: $\pm 0.4\text{mm}$ DUPLEX: $\pm 0.4\text{mm}$ MSI: $\pm 0.4\text{mm}$	For 390mm straight line
Horizontal Linearity	SIMPLEX: $\pm 0.4\text{mm}$ DUPLEX: $\pm 0.4\text{mm}$ MSI: $\pm 0.4\text{mm}$	For 200mm straight line
Diagonal Linearity	SIMPLEX: $\pm 0.4\text{mm}$ DUPLEX: $\pm 0.4\text{mm}$ MSI: $\pm 0.4\text{mm}$	For 200mm straight line

Life Expectancy of Key Components

Component	Replace at...
Fuser Unit	300,000 prints (B5)
Bias Transfer Roll	300,000 prints (B5)
Feed Rolls (3)	300,000 prints (B5)

Printer Options

There are numerous customer installed options available for the 3260/4032 printer. For detailed technical and service information on an option, refer to the individual service manual for that option.

Option	Description
HCF Unit	Tray 3 (500 sheets), Tray 4 (1,000 sheets), Tray 5 (1,000 sheets)
Envelope Feeder	100 envelopes
Face Up Tray	Feeds 200 sheets face up
Mailbox	Sorts 100 sheets into designated bins
HCS Unit	Stacks, staples, and offsets
Duplex Module	Allows printer to do duplex printing
Toner Sensor	Factory installed option. Senses the toner level in the EP Cartridge.
Full Stack Sensor	Factory installed option. Senses when the output tray is full.
Low Paper Sensor	Factory installed option. Senses the paper level in a feed tray.

Section 16 - Glossary of Terms, Acronyms, and Abbreviations

A-

AC	Alternating Current
Actuated	A device that is switched on
Actuator	Mechanical device used to toggle a switch or sensor
Aux	Auxiliary

B-

BCR	Bias Charge Roll
BTR	Bias Transfer Roll

C-

°C	Degrees Celsius
CCW	Counterclockwise
Charge	The negative voltage that the High Voltage Power Supply applies to the surface of the drum
Continuity	A resistance reading of approximately 0 ohms
Controller PWB	The electrical interface between the printer MCU and the host computer
CR	Signal name for the Charge voltage
CRU	Customer Replaceable Unit, such as the EP Cartridge
CW	Clockwise

D-

DC	Direct Current
DB	Signal name for the Developer Bias voltage
Deactuated	A device that is switch off
Develop	The process when toner adheres to the latent image on the drum
Developed image	The visible image on the drum after going through the development stage
Diagnostic Mode	The mode of operation that lets you check various components, such as sensors, solenoids, and motors
DPI	Dots Per Inch

Glossary of Terms, Acronyms, and Abbreviations

Drum	The Xerographic photoreceptor
DTS	Signal name for the Detack Saw voltage
DUP	Duplex
Duplex	Printing on both sides of a single sheet of paper
E-	
Earth	Electrical ground
Earth Plate	Electrical ground plate or ground strap
EP Cartridge	Electro-Photography Cartridge; sometimes referred to as the Print Cartridge or as the CRU
Error Code	A unique set of letters and numbers that the printer displays to indicate that a problem exists in a specific area of the printer
ESS	Electronic Subsystem; synonym for the Controller PWB
Exposure	The action of the laser beam striking and discharging select areas of the electrically charged surface of the drum
F-	
°F	Degrees Fahrenheit
Face Down Tray	Standard output tray for the printer. Delivers paper face down.
Face Up Tray	Optional output tray for the printer. Delivers paper face up.
Factory default	An adjustment value that is set at the time of equipment manufacture
FG	Frame Ground
Finisher	Synonym for the High Capacity Stacker
FIP	Fault Isolation Procedure. Step by step procedures that you use to troubleshoot printer problems
Fuser	The printer subsystem that uses heat and pressure to permanently adhere, or fuse, a transferred toner image to a sheet of paper
G-	
Ground	Electrical ground

H-

Harness	A bundle of wires that form a single unit and are generally terminated with connectors at both ends
HCF	High Capacity Feeder
HCS	High Capacity Stacker. See Finisher.
High (<i>signal</i>)	A signal voltage that is equal to or almost equal to the base voltage; such as +5VDC or +24VDC. (<i>see Low</i>)
H/R	Heat Rod. A component of the Fuser Assembly
HS	High Speed
HVPS	High Voltage Power Supply

I-

Input test	Diagnostic test used to test switches and sensors
Image density	The relative darkness of the toner image on a sheet of paper
Image development	Toner turning the latent image into a visible image. (<i>see Develop</i>)
Image fusing	Using heat and pressure to permanently adhere the toner image to a sheet of paper
Image transfer	Moving the developed image from the surface of the drum to the surface of a sheet of paper
Interlock	Interlock Switch. Used as a safety measure to remove voltage from circuits whenever the printer covers are open
IOT	Image Output Terminal. Acronym that is sometimes used in schematic diagrams to describe print engine

J-

J	Jack. A female electrical connector
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L-

Laser Diode	Generates the laser beam that is used in the ROS
L	Left
Latent image	The invisible, electrical image remaining on the surface of the drum after exposure
L/H	Left hand
Laser	Refers to the Laser Diode or to the laser beam
Laser beam path	The path the laser beam takes, through lenses and mirrors, from the Laser Diode to

Glossary of Terms, Acronyms, and Abbreviations

	the surface of the drum
LCD	Liquid Crystal Diode
LD	Laser Diode. (<i>see Laser Diode</i>)
LED	Light Emitting Diode
Low (<i>signal</i>)	A signal voltage that is significantly lower than the base voltage (<i>see High</i>)
LVPS	Low Voltage Power Supply
LS	Low Speed

M-

MCU	Machine Control Unit. The PWB that controls the operation of the IOT
MBF	Multi Bypass Feeder
MBX	Mailbox
MID	Middle
MOT	Motor
MSI	Multi Sheet Inserter (same as MBF)

N-

NC	No Connection
NVRAM	Non-Volatile Random Access Memory

O-

Output test	Diagnostic tests used to switch on motors, solenoids, and the HVPS
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P-

Paper jam	A sheet of paper stops at a point along the paper path
Paper path	The path a sheet of paper takes from the paper feeder to the output tray
P/H	Paper Handling
PL	Parts List
PLL	Phase Locked Loop
P	Plug. A male electrical connector

P/J	Plug and Jack. Electrical connectors as a unit
PPM	Pages Per Minute or Prints Per Minute
Pre-Regi	Pre-Registration
Print surface	The side of a sheet of paper that receives the printed image
Primary FIP	The first level of troubleshooting. Primary FIPS ask you to make component checks, replace parts, or proceed to a specific Secondary FIP
PS	Power Supply
PWB	Printed Wiring Board. Synonym for PCB (Printed Circuit Board)
R-	
Reg, or Regi	Registration
R	Right
R/H	Right Hand
ROS	Raster Output Scanner
RRP	Removal and Replacement Procedure. Step by step instructions on how to remove and replace select printer parts
RTN	Return
S-	
Secondary FIP	The second level of troubleshooting. Secondary FIPS direct you to make component checks and to replace parts
Sensor	A device used to monitor a function or operation, such as paper travel along the paper path
SG	Signal Ground
Signal name	A name given to a wire indicating the purpose of the wire and/or the voltage carried by that wire
Simplex	Generally means printing on one side of a single sheet of paper. (<i>see Duplex</i>)
SNR	Sensor
SOL	Solenoid
SOS	Start Of Scan
STA	Status

Glossary of Terms, Acronyms, and Abbreviations

STS Soft Touch Sensor

SW Switch

T-

Temp Temperature

Test Print Mode The mode of operation that lets you generate a test pattern

Test Pattern A grid that is generated by the MCU

Toggle To switch between two states, such as on and off or up and down

Toner The dry ink that is used to create the visible image. Toner is stored in the EP Cartridge

TR Signal name for Transfer current

Transfer Moving the toner image from the surface of the drum to the surface of a sheet of paper

TTL Transistor Transistor Logic

V-

V Volts

VAC Volts Alternating Current

VDC Volts Direct Current

W-

Warm-up The time it takes the printer to go from main power ON to Ready to Print

Wire Harness A bundle of wires that form a single unit and are generally terminated with connectors at both ends.